
June 20, 2007

Lynne Barre
Donna Darm

Assistant Regional Administrator
Protected Resources Division
Northwest Regional Office
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, WA 98115
Via Email: orca.plan@noaa.gov

**RE: Protective Regulations for Killer Whales in the Northwest Region under the Endangered Species Act and Marine Mammal Protection Act**

Dear Ms. Darm and Ms. Barre,

Thank you for the opportunity to comment on the *Protective Regulations for Killer Whales in the Northwest Region under the Endangered Species Act and Marine Mammal Protection Act: Advance notice of proposed rulemaking.* (Federal Register / Vol. 72, No. 55 / Thursday, March 22, 2007).

People For Puget Sound is a nonprofit, citizens' organization whose mission is to protect and restore the health of Puget Sound and the Northwest Straits.

Recovery of the Southern Resident Killer Whale population is a high priority for us. Orcas are an indicator for the health of the Sound - if their population is restored, then we are well on our way to overall recovery.

Our comments follow:

1. High priorities for orca recovery are toxic cleanup and prevention, oil spill prevention, and salmon recovery. We are concerned that NOAA has put much staff time and resources into vessel interaction issues at the expense of also ramping up needed effort on these other issues that need significant attention. We look to NOAA to create a strong menu of actions that address all of the priority threats.

2. It appears that enforcement of vessel restrictions would be enhanced by turning the guidelines into formal rules and so we support regulations. We strongly support regulations that give attention to vessels beyond the whale watchers per se. Examples are recreational boaters who happen to be in the area, commercial shipping, fishing boats, and Naval activity. Private boaters are a huge problem and we feel that we need

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regulations in order to gain control over this activity, perhaps by specifying boat categories in the regulations.

3. As part of your vessel action agenda, we urge NOAA to take a more thorough look at the Maury Island Glacier Northwest Gravel Mine, where a new barge facility will add a whole new level of vessel and noise impact to an important part of the orcas' winter habitat.

4. We also propose that NOAA provide funding for Soundwatch to expand and increase its on-the-water presence. Their program has been effective but we understand that they need at least $100,000 more per year in order to expand their coverage for the needed 100 days per year (i.e., an additional boat). They also would need $250,00 for the startup year.

5. Finally, we suggest that a network of hydrophones, that covers all of Puget Sound, be established so that researchers, enforcement agency staff, NOAA staff, and other interested parties can track orca pod locations and ensure that they are protected while they are in the Sound.

Thank you for your consideration. If you have any questions, please contact me at (206) 382-7007 or at htrim@pugetsound.org.

Sincerely,

Heather Trim
Urban Bays Coordinator


*The Voice for the Environment of the San Juan Islands and the Northwest Straits Marine Ecosystem*

June 20, 2007

Donna Darm, Assistant Regional Administrator
Protected Resources Division
National Marine Fisheries Service, Northwest Regional Office
7600 Sand Point Way NE
Seattle, WA 98115

Dear Ms. Darm:

Thank you for the opportunity to provide comments on NOAA's advance notice of proposed rulemaking to regulate vessel impacts on the Southern Resident Killer Whale population ("Orcas"). As a co-petitioner to list the Orcas on the Endangered Species Act list of endangered species, Friends of the San Juans ("Friends") believes that proposed rulemaking is both timely and necessary.

The legal aspects of providing meaningful protection to the Orcas are complex and must account for many factors. The impacts to Orcas from whale watching vessels include pollution from vessel exhaust, surface and sub-surface noise, disturbances to foraging, resting, traveling, and socializing, all of which have an impact on Orcas as evidenced by scientific research over the past decade. Friends believes that the goal of the new rule should simply be to provide Orcas the necessary level of freedom from disturbance, air pollution and noise pollution to engage in all essential life processes. To achieve this goal, the new rule must be practical, enforceable, guided by science, and must have a method and process to evaluate its performance and effectiveness. Given the endangered status of the population, simply requiring a more stringent minimum approach distance, without more, is insufficient to achieve this goal.

The Place and the Problem

The marine waters surrounding the San Juan Islands were designated as "summer core habitat" for the Orcas. The Islands are located at the confluence of the Straits of Georgia and Juan de Fuca, and Haro Strait forms the international border on the west side of San Juan Island and the County. All of these waterways are major shipping routes for cargo vessels and oil tankers.

During the spring, summer and fall months, vessel traffic steadily increases as Orca whale watching enthusiasts flood to the Islands. In the height of whale watching season, dozens of private and commercial vessels from Victoria, B.C., Anacortes, Port Townsend, Bellingham, Seattle, Friday Harbor and Roche Harbor bring thousands of visitors and tourists to get a glimpse of the majestic Orcas. Compounding this already challenging enforcement situation is that private vessels enter the Orcas' summer core habitat from virtually every direction.

General Comments

Friends understands that the current voluntary Be Whale Wise Guidelines are the product of a uniquely successful trans-boundary public-private partnership. Friends also understands that the 100 yard "no go" zone approach distance was not originally, and is not currently, based on scientific findings that Orcas show no, or lesser, signs of disturbance with vessels voluntarily setback at the 100-yard distance. Simply codifying the voluntary Guidelines will not provide the desired measure of comprehensive protection from vessel effects. However, Friends strongly believes that a greater vessel setback and approach distance is needed immediately.

The federal rules in place to protect Northern Right Whales and Humpback Whales establish distance limits that are not appropriate to use as a model for protecting Orcas given the distinct differences between those whales and Orcas. Those differences include 1) Orcas are toothed whales, not baleen whales like the Northern Rights and Humpbacks, and thus have different foraging patterns 2) the unique trans-boundary habitat and enforcement issues present in the Orcas' core summer habitat of the San Juan Islands, 3) the presence of international shipping routes throughout the Orcas' critical habitat, and 4) the enigmatic, social character of Orcas compared to slow-moving Northern Right and Humpback Whales.

Additionally, the new federal rule should be informed by science, but where science on a specific point is lacking, the rule should be informed by the precautionary principle underscored by a deep respect for protecting this endangered species. Again, the goal of the new rule should simply be to provide Orcas the necessary level of freedom from disturbance, air pollution and noise pollution to engage in all essential life processes. Friends believes that true, long-term recovery of the Orcas will require a comprehensive approach similar to that outlined below.

Proposed Regulation

The federal regulation must address and account for, at a minimum, the following:

- the duty of all masters of vessels to be on the lookout for Orcas and to safely operate the vessel in a manner to avoid violating the federal rule;
- a new, greater approach distance to the whales;
- the maximum number of vessels allowed at any one time within established proximities;
- the prohibited vessel activities, including all those listed in the Federal Register notice;
- enhanced protections for calves and mother-calf pairs;
- discretion to marine law enforcement officers;
- application of the new rule to all private and commercial foreign flagged vessels;
- the geographic scope of the regulations must follow the whales throughout the critical habitat and expand as critical habitat designation expands;



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- the degrees of offenses, such as negligent harassment and reckless harassment, and level of knowledge required for each;
- the need for trans-boundary marine law enforcement commissions between WDFW, NOAA and DFO Canada;
- the need for a commercial whale watch operator permit and certification program;
- allowable exemptions, including native fisherman, kayakers, researchers, tides, currents, etc. ;
- how the regulations will be informed by best available science; and
- that we may never know with certainty the type and manner of anthropogenic activities, or their cumulative impacts, that disturb or harm Orcas, so our actions should be guided by the precautionary principle.

Friends has the following specific comments to the preliminary list of regulatory options presented by NOAA in its advance notice of proposed rulemaking.

1. Codify the current Be Whale Wise Guidelines. Yes, Friends supports codifying the Be Whale Wise Guidelines, but with enhanced protections. After numerous conversations with Washington State Department of Fish & Wildlife marine law enforcement personnel, it is clear that codifying the voluntary Be Whale Wise Guidelines would not shelter the Orcas from vessel impacts, nor would it provide on-the-water enforcement officers the necessary discretion to decide violations. Friends believes that with the enhanced protective distances outlined below, the Be Whale Wise Guidelines should be considered the lowest common denominator of acceptable behavior around Orcas and should used by marine law enforcement officials as guidance to determine negligent boating behavior in the presence of Orcas.

   The federal rule should incorporate the following:

   - 220 yards or 1/8 mile – no-go zone at all times, on either side, and the distance at which vessels must have their engines disengaged (unless safety prevents them from doing so)
   - 440 yards or 1/4 mile – no-go zone at all times, in front and behind the whales' path
   - 440 yards or 1/4 mile – when calves are present, no-go zone at all times, on either side
   - 880 yards or 1/2 mile – the distance 1) that vessels are required to stay off-shore at all times (until a formal sanctuary is created), 2) that is the new slow-zone on either side of a whale, and 3) that is allowable for vessels to parallel Orcas.
   - Limit viewing time to 15 minutes per vessel at 220 yards until a more structured operator permit system is established.



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2. Minimum Approach Rule. Yes, Friends supports implementation of a minimum approach distance, or a floating "no go" zone around Orcas at all times. The challenge of establishing a new minimum approach distance is balancing the private and commercial interests in close-up Orca viewing with the scientific studies indicating that Orcas do alter behavioral patterns and experience energetic effects in the presence of vessels. Friends supports 220 yards or 1/8 mile as the closest distance to an Orca allowable for any private or commercial vessel.

   The 1/8 mile distance can be applied by law enforcement officials using radar to determine the distance between the whales and vessels. This minimum approach rule must be written to grant discretion to marine law enforcement personnel to cite vessels for negligent or reckless behavior in the presence of Orcas outside of, or beyond, this new minimum approach distance. NMFS or the State could install small mooring buoys along the core habitat area to demarcate the ½ mile off-shore distance.

3. Prohibit Vessel Activities of Concern. Yes, Friends supports prohibiting outright any vessel behavior that could be construed as herding, surrounding, positioning in the path, separating calves from adults, approaching at high speeds or running a vessel through or near a group or individual whale. In addition, vessels should not be allowed to "parallel" the Orcas at a distance closer than one-half mile, or 880 yards.

   These specific vessel behaviors should be prohibited and also used to establish a higher "reckless" standard of illegal boating behavior. The easiest way to enact these provisions is to modify the current NMFS regulations implementing the MMPA by 1) modifying the definitions of "take" and "harass" to include these prohibited vessel activities and 2) remove the requirement, and exceptionally high burden of proof, for a "take" or "harassment" under the MMPA and ESA to a strict liability burden of proof for these types of prohibited vessel behavior. This change would incorporate the existing federal regulatory scheme but provide much greater protection for the Orcas by creating a strict liability offense rather than requiring proof that the harassing activity resulted in a behavioral change.

4. Establish Time-Area Closures. Yes, Friends believes that it is essential to both limit the duration of each day that Orcas are subject to vessel disturbance and the area in which vessels are allowed. We believe that, though it may be politically untenable, creating an Orca sanctuary and preserve along the west side of San Juan Island, from Cattle Point, up to Turn Point on Stuart Island, is essential to the recovery of Orcas. This area has served as the "core" of the summer core habitat for years, but is also subject to intense vessel use. If a formal sanctuary is not feasible, NOAA could propose some level of greater restricted access for this area for 3-5 years as an adaptive management tool that would allow Orcas to engage in the necessary life processes free from vessel disturbance.



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In addition, Friends believes that it is necessary to regulate the hours in which Orcas are exposed to vessel disturbance. A reasonable approach would be to allow access from the hours of 10:00 a.m. to 6:00 p.m. We also support the idea of a "Whale Free Wednesday" in which every Wednesday from spring through fall the whales can pass through the designated area without being subject to vessel noise pollution, air pollution or physical disturbance.

5. Establish an Operator Permit or Certification Program. Yes, Friends supports the establishment of a commercial operator permit and certification program[1]. We recommend initiating a permit program for *all* commercial whale watch operators in a phased manner that could evolve over time as current levels of whale watching effort are evaluated and better understood. We recommend a permit be required for all commercial company vessels either partially or wholly engaged in whale watching activities, including kayaks, charter, aircraft and specific whale watching vessels operating in the 'Summer Core Whale Waters'. This would include both Canadian companies and US who would be operating in this specific area. Initially this could be an annual permit given out to all operators, for a fee that could be an established as a flat rate or an assessment based on use and/or passenger capacity. In the first years it could be required to have obtain and display the vessel permit, report on vessel statistics (make, model, engine type, passenger capacity etc), total annual passengers and require operators to log and report contact time with the Orcas, or all killer whales and/or all other whales. Vessel size has also been shown to be a determining factor in the energetic effects of whale watching on Orcas and must be accounted for.

   In order for a permit to be obtained by a company, all company vessel operator's would be required to obtain an annual certification as to knowledge of whale behaviors and proper procedures for operating vessels around whales as well as current regulations. This could be done through annual operator certification training courses. In addition, naturalists/guides working for these companies would also need to hold a certificate of training on killer whale biology, conservation, guidelines and regulations. This could be accomplished through a certification naturalists' course with a requirement for an annual update workshop. Fees should be charged for certifications that cover the costs of the courses and materials. If companies do not meet these requirements then they would not be given their permit to whale watch.

   Permits should be used to limit the number of vessels allowed to operate in certain proximities to the Orcas. A permit may give a company more access to certain areas, viewing times,

[1] Without further specific economic impact studies or a required commercial whale watch passenger reporting system, reporting actual number of passengers and actual ticket prices, it is difficult to assess the economics of this large and widely dispersed industry.



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approach distance. The number of vessels and proximity should be decided with the assistance of the scientific and legal community who have experience working on whale protection research and regulations. Permits may also become limited as to numbers given out, limited by company, and/or vessel operator record of incidents, regulation violations, among other factors.

All permit fees should go directly into supporting not only the permitting infrastructure but also enforcement and monitoring efforts. Fines from regulation violations should go back into the enforcement of regulations. Additional one dollar per passenger stewardship fees should be required of each whale watch passenger onboard permitted vessels and these fees should go into killer whale conservation, education, stranding network and monitoring activities.

Information and Education Friends believes that along with a new rule protecting Orcas from vessel effects, a public information campaign will be necessary. This could include, among other things, the following:

- Adjacent to the whales' core routes are several heavily used traffic areas the exit out into whale routes. In addition to the 1/2 mile off shore restriction areas and special "Summer core Whale Waters" areas, these exit corridors need to be marked on the same NOAA navigational charts and notice to mariners. Notices of these "cautionary exit areas" could be posted on existing or intentionally placed navigational buoys or markers at the exit areas cautioning boaters as to the Whale Crossing Area Ahead advising a slow approach, assertion of whales presence, proceeding cautiously or waiting for the whales to pass at least 440 yards beyond the exit area before they make an exit. The exit areas of concern include Cattle Pass, San Juan County Park (Small Pox Bay), Mosquito Pass, Open Bay, Roche Harbor, Speeded Channel, and New Channels to North Haro Strait and the Turn Point Boundary Pass Area.
- Use symbol system along the west side on buoys or small signs on shore to alert vessel operators of distances from Turn Point to Cattle Point. The symbols and their locations could be published on the NOAA navigational charts, Notice to Mariners and Sportfish Rules booklets.
- At the time of vessel registration, state and local licensing agencies could hand out copies of the federal rule for all new and renewing licensing applications. The signature on the vessel registration would indicate notice of regulations and guidelines. Use of the WA carbon monoxide education campaign as a model would be helpful.
- Utilize radio frequency on NOAA, USCG or other mariner station as notice of guidelines and new rules as a repeat broadcast; play should be heightened during times when all three pods present or times of heavy boating traffic, such as holiday weekends.

Marine Law Enforcement All of the above recommendations will not be possible without additional funding for marine law enforcement and Soundwatch. NOAA will need to allocate money for additional patrol boats, fuel, training and marine law enforcement personnel to be on



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the water every day of the season that the new regulations are put into place. In addition, fully funding an additional Soundwatch boat and crew will be essential to the success of the new rule.

I recently had the opportunity to spend a long afternoon on patrol with Sergeant Russ Mullins of WDFW and Special Agent Alan Wolf of NOAA's marine law enforcement program. We followed the J Pod from Kellet Bluff on Henry Island north up Haro Strait to the Canadian border. During our patrol, Special Agent Wolf gave three verbal warnings to Canadian vessels, two of which were on-board warnings. At the Canadian border in Haro Strait, we reluctantly turned around because neither officer has been deputized by the Department of Fisheries and Oceans Canada to issue warnings or citations in Canadian waters. This personal experience made it clear to me that 1) all foreign flagged vessels must be equally subject to the new federal rule when in U.S. waters, 2) that NOAA should immediately seek trans-boundary marine law enforcement commissions between NOAA,WDFW and DFO Canada marine law enforcement personnel, and 3) NOAA must actively work with DFO Canada to seek a similar rule protecting Orcas from vessel effects when in Canadian waters.

Incidental Take Permits Given the need for this federal rule to protect Orcas from vessel effects, it seems appropriate that NOAA will give a heightened scrutiny to all new and existing incidental take permits applied for and issued in the Orcas' critical habitat, and particularly the summer core habitat. It makes little sense to create and enforce a federal rule protecting Orcas from vessel effects if NOAA plans to allow holders of incidental take permits to operate their vessels in a manner that disturbs and harasses Orcas.

Conclusion Friends appreciates the opportunity to provide comments on the much-needed new federal rule protecting Orcas from vessel effects. We look forward to working with you throughout the rulemaking process to support recovery efforts for the Southern Resident Killer Whale population.

Respectfully submitted,

Amy Trainer
Staff Attorney



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THE WHALE MUSEUM
EDUCATION • RESEARCH

PROMOTING STEWARDSHIP OF WHALES AND THE SALISH SEA ECOSYSTEM THROUGH EDUCATION AND RESEARCH

June 20, 2007

Donna Darm
Assistant Regional Administrator
Protected Resources Division
Northwest Regional Office
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, WA 98115

Dear Ms. Darm:

The Whale Museum would like to thank you for the opportunity to provide comments on whether – and, if so, what type of – conservation measures, regulations, and, if necessary, other measures would be appropriate to protect killer whales from the potential threat of disturbance, injury or mortality by vessels and aircraft engaged in whale watching (commercial and recreational).

Please accept the following comments on behalf of The Whale Museum. The museum has principally drawn from the long-term data sets and annual reports characterizing vessel trends with Southern Resident Killer Whales from The Whale Museum's Soundwatch Boater Education Program. Soundwatch has over fourteen years experience with the development and evaluation of the region's best practice guidelines for whale watching, educating recreational and commercial boaters and kayakers on the guidelines, and monitoring vessel activities around the Southern Resident Killer Whales as they move through their Summer Core Area in the Haro Strait region of Washington State and Southern British Columbia, Canada.

General Comments regarding the Advanced Notice of Proposed Rule Making Changes:

**1-Advisability and need for regulations.**
It is the opinion of The Whale Museum that while conservation education and outreach play a crucial role in marine mammal protection, increased boating pressures and continued noncompliance with the best practice guidelines have prompted the need for developing, implementing and promoting regulations for vessels around orca whales.

**2-Geographic Scope of regulations:**
All general regulations (i.e., activities of concern including approach distances, parking in the path etc., see below for details) should be applied to all the areas where Southern Resident Killer Whales have been reported. Broadly, they should apply to the marine waters in the states of Washington, Oregon and California. Specific area restrictions, etc., would only apply in those areas (see below for details).

**3-Management Options:** See below for details.

**4-Information regarding potential economic effects of regulating interactions:**
NMFS has used previous Whale Museum reports characterizing the growth of the commercial whale watch industry from the Soundwatch End of Season Reports and special reports specifically on the growth of the Whale Watch Industry from Dr. Richard Osborne for these evaluation purposes. Additionally, reports from the International Fund for Animal Welfare (IFAW) done by Eric Hoyt have also been used to ascertain the economic importance of regional whale watching. Without further specific economic impact studies or a required commercial whale watch passenger

reporting system, reporting actual number of passengers and actual ticket prices, it is difficult to assess the economics of this large and widely dispersed industry.

Comments on NMFS preliminary list of options as posted in the Federal Register:

1-***Codify the current "Be Whale Wise" whale watching guidelines*** –
Specifically, The Whale Museum suggests focusing on specific aspects of the current 2006 Be Whale Wise marine wildlife guidelines for implementation as regulation as follows:

-**Reduce vessel speed near whales:** We feel that a specific speed limit of no more then 7 knots within 440 yards equaling ¼ mile from whales would be an appropriate 'slow, safe speed' and distance to give vessel operators enough time and distance to see whales, slow down and still be able to make course adjustments to get themselves out of the whales path while operating the vessel in a safe manner.

**-Establish a minimum approach distance:** Given the often unpredictable and dynamic social nature of multiple pods of killer whales and the high likelihood of vessel encounters with whales in the summer months, we suggest that a distance limit be established of 200 yards.

**-Keep clear of the whales' path:** Evidence presented in recent years has indicated that vessel presence in the whales' path may elicit behavior changes and/or impede a whale's or group of whales' ability to capture and/or share prey. We suggest that vessels should be restricted from approaching (motoring) or positioning (stopping) a vessel (including kayaks or other human powered craft) or otherwise allowing a vessel to become within 400 yards of approaching whales or positioned so that the whales pass closer than 200 yards of the vessel.

**-Restrict approach and departure from whales to approaching from the side, parallel to the direction of the whales travel.** Vessels should not approach or depart from the front or from behind. In essence, treat the area in front of whales and behind the whales as the whales' path since whales often make abrupt reversals in direction. This would also prohibit crossing the path of the whales within a distance of 400 yards.

**-Restrict vessels from to traveling on the inshore of whales when the whales are traveling within ½ mile from shore.** The whales often use regular routes near shore for traveling, foraging, resting, and socializing. Restricting vessels from traveling inshore of whales when whales are within 1/2 mile (880 yards) from shore would prevent vessels traveling at high speeds, close to whales, which is often seen occurring by private recreational boaters along the whales' major nearshore travel routes. This would be consistent with vessels traveling slow within ¼ mile of whales and requiring them to move offshore and out and around the whales, would prevent vessels from motoring through groups of whales.

2. ***Establishing a minimum approach distance:*** - Above recommendations cover this.

3. ***Prohibit vessel activities of concern:*** In addition to the above we suggest that additional special restrictions apply for kayakers and human powered craft. Regulations that apply to kayakers should require them to remain at or within 200 yards of shore to prevent them from moving off shore to paddle in the whales' path and into the area of high vessel traffic. Specific kayaker regulations could also require rafting up and not paddling when whales are within 200 yards, waiting on shore as whales pass and/or going next to the shore as whales pass, etc.

4. ***Establish time and/or area restrictions in certain locations*** – The Whale Museum suggests a two-tiered approach to area restrictions.

**First would be to declare the entire Summer Core Area as a 'Whale Water Watch-Out' Area.** This cautionary area would serve as notice to boaters of high likelihood of encountering whales during the summer months (roughly April–October) and would serve as notice that should boaters

encounter whales in this area they are responsible for knowing the laws and guidelines that apply. These areas could be widely published, including making special delineated 'Cautionary' or 'Precautionary' Areas on NOAA Navigation Charts, as Notices to Mariners and in the WDFW Sportfishing Rules Booklet. These areas would be applicable to a permitting system for commercial whale watch operations (see below).

**Secondarily, special areas within the Whale Waters should be off limits to motor boats when the whales are present.** The established Voluntary No-Go Zones of ¼ mile from Mitchell Pt. south to Eagle Pt. and ½ mile around Lime Kiln need to be expanded and made regulatory to include more of the whales established core routes and areas known to have high vessel densities. The core routes of the whales tend to run roughly north and south along the west side shorelines of Lopez, San Juan, Henry and Stuart Islands. The highest densities of vessel traffic tends to be from Cattle Pass at the south end of San Juan Island to Turn Point on Stuart Island, with the highest overlapping densities of vessels and whales occurring along the west side of San Juan Island from Cattle Pass to Kellett Bluff on Henry Island. (See attached Soundwatch Vessel Density/Whale Area Use Maps for detail). We suggest exploring Vessel Restriction Zones in this core area. Some alternatives might include one or more of the following:

- A Motor Vessel Restriction Zone when whales are present of ½ mile offshore (from point to point, not from furthest shoreline) running From the Turn Point Light House on Stuart Island to Eagle Pt. on San Juan Island.

- A Motor Vessel Restriction Zone when whales are present of 1/4 mile offshore (from point to point, not from furthest shoreline) along any shoreline in the Summer Core 'Whale Waters' Area.

These types of restricted areas would likely need to include some vessel exemptions. We suggest that additional special restrictions apply for kayakers and human powered craft. Regulations that apply to kayakers should require them to remain at or within 200 yards of shore when in these same areas to prevent them from moving off shore to paddle in the whales' path and into the area of high vessel traffic. Specific kayaker regulations could also require rafting up and not paddling when whales are within 200 yards, waiting on shore as whales pass and/or going next to the shore as whales pass, etc.

- Consider a Permanent ALL MOTOR VESSEL RESTRICTION ZONE from shore to ½ mile off shore running south from Small Pox Bay (San Juan County Park) to Edwards Pt. on the Westside of San Juan Island. This area could be a kayak only zone. No exemptions for any type of fishing or boating. Boaters wanting to use the county park boat ramp could still use the ramp, but would be required to exit the park to the north and go out and around this zone. Several other county and state conservation and recreation opportunities already exist in this key area. It is an area that has a Voluntary Bottomfish Recovery Zone under the San Juan County Marine Stewardship Area, has been part of the established Voluntary No Motor Boat Zone when whales are present since 1996 and has The Whale Museum's Whale Research Lab and SeaSound Hydrophone acoustic station present. It is adjacent to Lime Kiln Whale Watch State Park and two of the San Juan County Land Bank Preserve Areas- all areas of prime shore based whale viewing areas and areas where the whales are most often right off the shoreline. This is the main area targeted by the commercial and private kayakers engaged in whale watching and is adjacent to the only San Juan Island west side put-in and public beaches for take-out along the west side of San Juan Island. All other kayaker regulations would apply.

- Explore the idea of 'Feeding Hot Spot' areas where whales are known to be spread out and foraging. Considerable evidence shows that the whales do not always travel in strait line groups along shorelines. It is more difficult to maneuver your vessel according to the current guidelines and the suggested regulations when whales are not traveling in predictable patterns. In areas known to be regular foraging areas for the whales such as

the Salmon Bank Triangle (Offshore SE from Eagle Pt. to the Salmon Bank Marker and E to Iceberg Pt on Lopez Island- this includes the Cattle Pass area) we suggest having additional 'Cautionary Whale Hot Spot Areas' highlighted on the NOAA Navigation Charts, as Notices to Mariners and in the WDFW Sportfishing Rules Booklet within the Summer Core Whale Waters. In these areas vessels would be required to follow all of the other regulations, but could also be required to not use the parallel viewing technique, but rather move only to keep out of the whales path.

- **Cautionary Exit Corridors Adjacent to Whale Routes:** Adjacent to the whales' core routes are several heavily used traffic areas that exit out into whale routes. In addition to the alternate vessel restriction areas and special 'Whale Waters Watch-Out' Caution Areas, these exit corridors need to be marked on the same NOAA navigational charts, Notice to Mariners, etc. Notices of these Cautionary exit areas could be posted on existing or intentionally placed navigational buoys or markers at the exit areas cautioning boaters as to the 'Whale Crossing Area Ahead'. In these areas boaters should be advised to approach slowly, ascertain whales presence, proceed cautiously and/or wait for the whales to pass. Vessels should not exit the pass until whales are at least 400 yards beyond the exit area and vessels should go out at least 400 meters at maximum of 7 knots before going out and around whales to leave the area or before engaging in whale watching. The exit areas of concern are Cattle Pass, San Juan County Park (Small Pox Bay), Mosquito Pass/Open Bay, Roche Harbor/Spieden and New Channels to North Haro Strait and the Turn Point Boundary Pass Area.

**Overall Area Time Restrictions** on whale watching would certainly decrease the hours in the day that whales had boats accompanying them. Time restrictions would be hard to enforce broadly, but could be generally advised and/or limited to the commercial whale watching industry, thereby reducing significantly both the number of vessels with whales during those restricted times as well as the obvious draw the commercial whale watch industry creates by alerting private boaters as to the whales' location by presence and VHF radio chatter. Time restrictions would also allow for research activities especially behavior research requiring situations with low or no boat presence. The Whale Museum recommends a time restriction limiting commercial whale watching (including kayak and aircraft used for viewing) to the hours between 10 am and 8 pm. Certainly vessels could be on the water earlier or later, observing other marine wildlife, but could not engage in killer whale specific viewing activities.

5. ***Operator permit or certification program*** –
The Whale Museum is in favor of exploring permitting options and suggests a phased permitting system that could evolve over time as current levels of whale watching efforts are evaluated and better understood. To start off, immediately we recommend a permit be required for all commercial company vessels engaged in whale watching activities, including kayaks, charters, aircraft and specific whale watching vessels operating in the 'Summer Core Whale Waters'. This would include both Canadian companies and US who would be operating in this specific area. Initially this could be an annual permit given out to all operators for a fee that could be established as a flat rate or an assessment based on use and/or passenger capacity. In the first years, it could be a requirement just to have obtained and display the vessel permit, reporting on vessel statistics (make, model, engine type, passenger capacity, total annual passengers etc.) and require operators to log and report contact time with southern resident killer whales, or all killer whales and/or all other whales.

In order for a permit to be obtained by a company, all company vessel operators (guides for kayakers) must also be required to obtain an annual certification as to knowledge of whale behaviors and proper procedures for operating vessels around whales as well as current regulations. This could be done through annual operator certification training courses. In addition, naturalists/guides working for these companies would also need to hold a certificate of training on killer whale biology, conservation, guidelines and regulations. This could be accomplished through a certification naturalists' course with a requirement for an annual "continuing education" course Fees should be charged for certifications that cover the costs of the courses and materials. If

companies do not meet these requirements, they would not be given their permit to whale watch in the Whale Waters Area.

In the future, permits may give a company more access to certain areas, viewing times, approach distance, etc. Permits may also become limited as to numbers given out, limited by company, and/or vessel operator record of incidents, regulation violations, areas, etc. Permits may also be used to limit the number of vessels allowed to operate or to operate in certain areas.

All Permit fees should go directly to supporting not only the permitting infrastructure but also enforcement and monitoring efforts. Fines from regulation violations should go back into the enforcement of regulations. Additional one dollar per passenger stewardship fees should be required of each whale watch passenger onboard permitted vessels and these fees should go into killer whale conservation, education, stranding networks and monitoring activities.

## Other Management Considerations/Notes:

**Foreign Vessels:**
It is important that the regulations apply to all commercial and recreational vessels, including vessels originating from Canada, as we know that many of the private recreational boaters and commercial operators engaging in whale watching are from Canada.

**Restrictions Applied to All Killer Whale Types:**
The Whale Museum supports that the restrictions should apply to all killer whale types occurring in the 'Whale Water' and broader geographic range as it is hard to ascertain killer whale types by the average boater.

**Special Restrictions for Special Whale Activities:** Special considerations should apply to resting whales, mother-calf pairs and transient whales. Whether these should be regulations or additional guidelines should be explored.

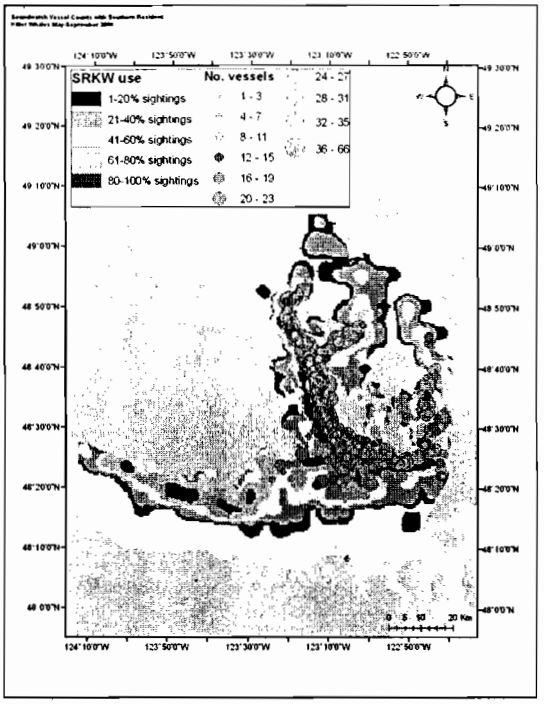
**Restrictions Apply to all Fishermen en route to fishing spots.**
While exceptions may be warranted with actually engaged in fishing, while en route, all restrictions should apply equally.

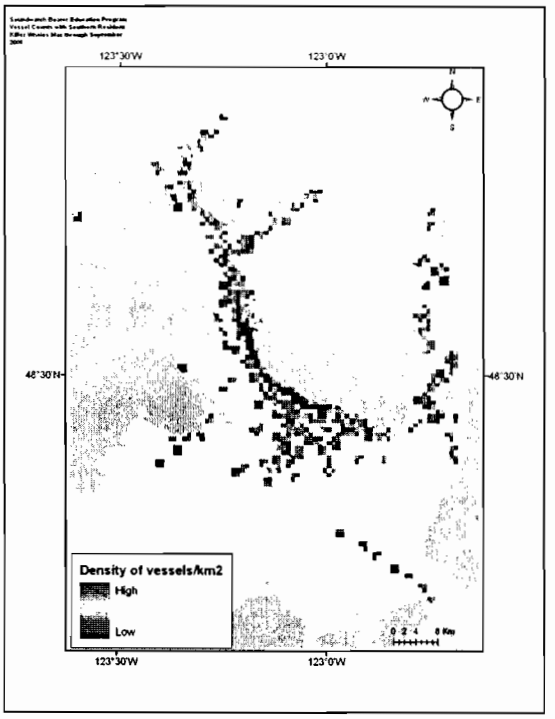
**Use of Special Shoreline Symbols to Remind Boaters of Area Restrictions when Whales are Present:** Much like the fishing regulations are displayed in Canadian waters, large yield symbols outlined in a certain color could be placed along the shoreline in the restriction and exit areas. The symbols and their locations could be published on the NOAA navigational charts, Notice to Mariners and Sportsfishing rules booklets.

**Utilize the State Vessel Licensing System:** At time of vessel registration, handout or mail whale-watch regulations and guidelines including brochures and stickers for placement in vessel. Signature on vessel registration would signal notice of regulations and guidelines and would serve as public notice. Use the State's current Carbon Monoxide Program as model.

**Create a 'Whale Waters Watch Out' VHF Radio Channel/or Notice System:** Utilize the NOAA Weather and/or emergency notification channel and Notice to Mariners updates to provide notices of whale regulations and restrictions especially on busy holiday or special whale situation days. Use a regular frequency for vessels on-scene to communicate about proper placement. Note: Not a channel for vessels to call into to find out where whales area.

**2006 Soundwatch Vessel Density/Whale Area Use Maps**




We appreciate the opportunity to comment on behalf of The Whale Museum. We are pleased to be working together to help recover the Southern Resident Killer Whales and their important habitats.

Sincerely,

Val Veirs, PhD
Chair, The Whale Museum Board of Directors

Jenny L. Atkinson
Director, The Whale Museum

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**Comments to Northwest Region on proposed NOAA vessel regulations to protect southern resident killer whales**

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20 June 2007

We are pleased to hear that NOAA is considering a plan to regulate vessel traffic around southern resident killer whales (SRKW). We have been convinced for years now that repeated disturbance from boats can alter killer whale behaviour, and that this, in turn, can carry energetic costs to individuals. For prey-limited populations, these energetic costs could affect individual fitness, and ultimately, their population dynamics.

What is less immediately intuitive is how to use this information to manage boat traffic. Some options will cause greater economic disruption to whalewatchers than others. The approach that we favour is one that identifies important areas that can be designated off-limits to all boats, and to minimise disturbance outside those protected areas.

**1. Identification of important areas from which vessels can be excluded**

For northern resident killer whales (NRKW), identification of a boat-exclusion zone was immediately apparent to whalewatch operators, because those whales use a few gravel beaches near Robson Bight for a unique, beach-rubbing activity. The Robson Bight (Michael Bigg) Ecological Reserve (RBMBER) also turned out parenthetically to protect good feeding habitat. This is important for a variety of reasons:

a. the process of identifying important habitat from which boats should be excluded was driven initially by whalewatchers, not managers;
b. NRKW turn out to be most likely to alter their behaviour when boats approach them while they are beach-rubbing or feeding (Williams, Lusseau & Hammond 2006); so
c. RBMBER protects a patch of water than NRKW use preferentially for activities in which they happen to be most vulnerable to anthropogenic disturbance.

For SRKW, we would urge a similar approach to identification of important habitat as a candidate marine protected area (MPA) from which all boaters could be excluded:

a. we would be curious to hear where the whalewatchers suspect that SRKW feed preferentially;
b. SRKW appear to be most vulnerable to boat-based disturbance while feeding (Bain *et al.* 2006), and they do not engage in beach-rubbing; so
c. a no-entry MPA placed in a patch of water that SRKW use preferentially for feeding would confer greater conservation benefit than would a similarly-sized patch of water that protected a travel corridor.

One area in which we would hope the SRKW situation could be more risk-averse than the NRKW one is in terms of excluding all vessels from the MPA. In RBMBER, fishing boats still enter the reserve and are the most common vessel type in the area overall, even though all vessels (not just whalewatching vessels) were driving the trend towards boats disrupting whale feeding activity (Williams *et al.* 2006). This is a recurring theme in NRKW vessel-impact studies: the models explain more of the variability in whale behaviour when they include data on both whale-oriented and non-whale-oriented vessels. So an MPA will confer greater benefit to whales if all boats are excluded than if only commercial whalewatching boats are excluded.

In summer 2006, Ashe and colleagues partnered with Dr Dawn Noren at NWFSC to conduct a pilot study to identify feeding hotspots. The results suggested that such a preferred feeding area was found that summer along the southwest area of San Juan Island from False Bay to Cattle Point, including Salmon Bank (Ashe *et al.* 2007). It would be good to repeat that study using data from other years to identify whether SRKW display similar habitat preferences (during peak whalewatching months) every year, or if hotspots are ephemeral. As

environmental conditions change or areas of high prey density move, the boundaries of an MPA may need to be re-drawn periodically.

One reason why the framework adopted by Ashe and colleagues (2007) is useful is that it asked Soundwatch and other on-water educators how large a patch of water could be protected with existing resources. Consequently, the size of an MPA could be varied as financial resources allowed, but the placement of the MPA would be driven always by observations of the animals' behaviour. Again, the key is to map how animals use their habitat, and to identify an area in which animals spend disproportionate amounts of time in the activity state in which they are most vulnerable to disturbance (Bain *et al.* 2006). If that activity state turns out to be feeding (as all available evidence so far suggests), then this links to fitness in an obvious way. If it turns out that the activity state in which whales are most vulnerable to disturbance is not actually feeding, then the approach still removes the disturbance more efficiently than an MPA that does not target that activity state.

The above-outlined approach to MPA planning would marry the prey and vessel factors into one management action. As a result, it would feed nicely into public outreach – if boaters knew that the rationale for the no-entry policy were to protect important feeding areas, it might promote good compliance with the boundaries. Finally, a well-placed exclusion zone represents a good management option, because (a) it confers conservation benefit, and (b) it is relatively simple to enforce. There is no ambiguity in a do-not-enter regulation.

**2. Managing boater activities outside of vessel exclusion zones**

Existing whalewatching guidelines are somewhat arbitrary, and strike us as overly complex. For NRKW, the research and whalewatching community adopted an iterative approach to guidelines. For example, in the 1980s, boaters were not asked to stay out of Robson Bight, but rather to stay farther (400m) from whales when inside the reserve than they would while whalewatching outside the reserve (100m). In the 1990s, that changed, and recreational and whalewatching boaters were asked to stay out of the reserve entirely.

A similar approach has guided the development of guidelines for watching whales. When we approached a NRKW focal animal with one experimental boat that followed the 100m, paralleling guideline, whales reacted by altering their path slightly (Williams, Trites & Bain 2002). When one experimental boat violated the 100m guideline by adopting erratic, 'leapfrogging' behaviour, whales showed qualitatively similar avoidance responses, but of greater magnitude than those seen during slow, paralleling approaches (Williams *et al.* 2002b). Whalewatch operators rarely engage in leapfrogging activities, and the guidelines encourage activities (*e.g.*, paralleling) that tend to elicit weak avoidance responses.

That said, we should not necessarily assume that boater regulations that elicit no obvious evasive responses by whales are better than those that elicit strong responses. Behavioural responses are influenced by multiple factors including the trade-off between the implications of tolerating a distruptive stimulus (e.g., acoustic effects such as temporary or permanent threshold shifts) and the costs of responding to the stimulus (e.g., energetic costs of evasive tactics or opportunity costs of missed foraging bouts). In a recent experiment using multiple vessels, NRKW reacted oppositely to approach by few (1-3) and many (4-17) vessels (Williams & Ashe 2007). Whales appear to display avoidance response when the response has a reasonable chance at producing the desired effect (namely increasing the distance between boat and whale). Evasive tactics (like adopting erratic swimming paths) that work with few boats may not work when surrounded by many boats. As a result, we urge NOAA to develop regulations that address crowding.

New opportunistic studies on SRKW (Bain *et al.* 2006) indicate that SRKW and NRKW show similar shaped avoidance responses to boats. Detecting those subtle responses requires a lot of data, good experimental control over the study, or statistical modelling to account for confounding effects. However, boat effects are subject to a great deal of statistical noise (heterogeneity, or random variation), because they are small compared to the other (social and ecological) factors driving animal behaviour. That statistical noise is important to consider when taking the results from a research arena to a management one. There is no evidence in the data to suggest that whales perceive a boat a 90m in a dramatically different

way than they perceive a boat at 110m. Similarly, people are terrible at judging distance at sea (Williams *et al.* 2007), so not only is the proximity guideline a fuzzy one biologically, but also it is one that is difficult for managers to distinguish between what boaters do and what they intended to do. As a result, we would hate to see regulations that rigidly, blindly enforce the 100m proximity guideline. Instead, what the published studies are telling us is that we should encourage boaters to handle their boats (a) in a slow, predictable way; and (b) in a way that reduces the noise level that whales receive. The regulations should be crafted so that they are explicitly iterative, that is that they are subject to change as new information emerges. We anticipate that future research will tell us whether the aspect of vessel traffic that drives behavioural response is more likely linked to noise or physical spacing or presence or movements of boats.

Until then, existing research points to generic attributes of good guidelines – slow, predictable behaviour that reduces engine noise received by whales. Slow boating, paralleling the overall path of the whales should be promoted. A set speed limit in the presence of whales should be agreed upon and is an enforceable regulation. Speeding up to position the boat ahead of the whales (and ahead of the other whalewatching boats in the fleet) should take place when the whales are a good distance (500-1000m) away. Boaters should be encouraged to listen on hydrophones – keeping their engines off. We do not understand or condone the notion that boaters who find themselves 100-400m from whales should engage their engine and back away if they believe that the whales' predicted path would bring them within 100m of their position. In fact, this erratic handling of boats within 100-400m is analogous to the leapfrogging activity cautioned *against* by Williams *et al.* 2002b. Boat handling in the range of 100-400m from whales will introduce more noise, in front of the whale (*i.e.*, in the zone in which masking effects are strongest), than staying in position with the engine off would do. Operators should be discouraged from parking in the path of whales, period. But if it happens, boaters should not be encouraged to make last-minute changes to their position. If these regulations eventually lead to fines for violation, then we fear a situation in which boaters (anxious to avoid a fine) will make a last-minute effort to back away from one whale and run into another. We should be encouraging quiet, slow and predictable boat handling. If operators consistently and repeatedly park in the whales' path, then they may be penalized for doing so at a later date. But they should be discouraged from moving around within 100-400m of the whales.

## 3. Conclusions and recommendations

There is now overwhelming evidence that boat traffic can influence the behaviour and activities of resident killer whales, and as a result, there is sufficient justification to regulate boating activity around the endangered SRKW population. However, vessel effects are one suite of factors influencing the behaviour of whales, and they are unlikely to form the dominant factor. As a result, SRKW behaviour is highly plastic. There are data to indicate that SRKW react to boat number and proximity. These reactions are small, and there is a lot of random variability around these statistical tendencies for animals to react. We know that reactions to close boats are stronger than reactions to distant boats, but we do not have evidence to suggest that, *e.g.*, a boat approaching a whale to within 95m constitutes a 'take,' while another staying 105m away is causing no effect. We know that avoidance responses tend to increase as the number of boats increases, and it appears that at some level of crowding, this tendency to respond disappears. It is unknown whether this indicates tolerance, or a decision not to engage in costly evasive manoeuvres that are unlikely to be effective when surrounded by boats.

Overall, we encourage regulations that take this perspective into account. We encourage regulations that address proximity, with the caveat that the decision to enforce proximity guidelines should not be made by a mindless, laser range-finder, but rather by a well-trained agent who can identify boaters who are flagrantly violating the guideline's intent. Similarly, we encourage regulations that address crowding of whales, but do not profess to know the saturation point that constitutes crowding. Finally, we note that any guideline that reduces underwater noise is likely to be a good one. As a result, we encourage guidelines that promote spending time with engines off, and discourage guidelines that encourage boaters to operate with engines on in close proximity to whales.

We recommend:

a. A no-entry MPA or network of MPA that exclude boats from preferred feeding areas,
b. Slow, quiet, predictable whalewatching activity outside MPA(s),
c. Guidelines limiting the number of boats within 1000m of whales at any given time to some reasonably low number,
d. Enforcement that focuses on intentional and repeated violation of guidelines, rather than occasional incursions within 100m, and
e. An understanding among boaters that regulations are iterative, and subject to review and revision on a regular basis.

If you have any questions, please do not hesitate to contact us.

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**Comments on the Notice of Proposed Rule Making Regarding Vessels and Southern Resident Killer Whales**

David E. Bain, Ph.D.

The ESA requires that federal actions not lead to the degradation of critical habitat. In the absence of regulation of vessels, the numbers of vessels can be expected to increase, and with that noise and chemical discharges (exhaust, unburned fuel, grey water, etc.) in Critical Habitat, leading to degradation. Noise masks echolocation signals, effectively reducing available prey, a PCE. Further, the ESA requires that takes be prohibited. Thus vessel regulation should be strict enough that compliant operation would not result in takes. However, even with the best of intentions, it is not always possible to achieve compliance. Thus my comments will address both what "ideal" regulations should be, and additional regulations that would be needed to allow for honest mistakes given the complexity of whale behavior and the marine environment.

## Operating Practices

Scientific data show harassment occurs when vessels approach closely. The magnitude of the effect is influenced by the number of vessels approaching closely (Bain *et al.* 2006 ab, Williams and Ashe 2006).

The distance at which vessels should be allowed to operate is unclear. The Be Whale Wise guidelines require vessels to maintain a distance of 100 yards from both the whales and their path. However, Bain *et al.* (2006ab) found significant changes in behavior when vessels were between 100 and 400 meters away, and that when vessels were between 400 m and 1000 m away, behavior differed significantly neither from when vessels were closer nor from when the closest vessel was farther away. That is, there is greater than a 95% chance that the line should be drawn greater than 100 meters away, but the data lack the resolution to state whether the line should be slightly farther than 100 m, or perhaps as far as out as 1 km. Additional research will be needed to resolve this issue.

Studies have shown that changes in behavior increase with number of vessels to about seven vessels, but changes with increasing numbers beyond that seem to depend on the behavior of interest. While these results do not lend themselves to detailed recommendations, they do suggest that clumping boats is likely to be better than evenly distributing them, as the incremental change declines as boat number increases. That is, it is likely to be better to have a lot of boats on a few whales, than a few boats on a lot of whales.

Speed and noise of vessels as factors have not been as clearly linked to specific effects. However, using "traditional knowledge," the Whale Watch Operators Association Northwest developed a set of guidelines that included vessel speed as a function of distance. Bain (2001) noted the estimated received levels were the same in each condition. That is, operators had offset the higher source levels of engines operating at

high RPM with requirements for increased distance at high speeds, so that received levels at the whales were maintained at a level that would not result in changes in behavior detectable by vessel operators. This level is likely to be in the vicinity of 105-110 dB re 1 μPa RMS. Further Williams *et al.* (2002ab) noted that vessels operating at high speeds at 100m caused greater effects than boats operating at the same speed as the whales traveled. Thus differences in noise, whether due to propulsion system (from nearly silent kayaks to noisy outboards) or operating speed, could be used to amend distance regulations. That is, nearly silent vessels like kayaks might be allowed to approach closer than propeller driven vessels.

## Compensatory Practices

While setting distance, noise and speed standards appropriately would prevent takes of killer whales by vessels, it is not always possible to comply with such standards. Wind and current cause vessels to drift and can constrain safe operating practices; avoiding collisions with other vessels requires navigating differently than one might like; and whales can change the spatial arrangements within groups and velocity of travel to take an in-compliance vessel out of compliance. While experienced operators can reduce the likelihood of such events, short of staying off the water it is impossible to eliminate them altogether. Likewise, freight operators have limited maneuverability, and it is probably best to have them remain in their shipping lanes at constant speed rather than have them try to avoid whales. However, when vessels do closely approach, they are likely to have a small effect on the population, and these effects can accumulate. An approach to limiting cumulative impact is to limit operating areas and times (time of day, season of year).

### *Area closures*

Some narrow channels, such as Colvos Passage on the west side of Vashon Island, are areas where changes in spatial arrangements of individuals could reasonably be expected to result in vessels violating distance rules, and closures to whale-oriented traffic in such areas would be merited. Other areas may be used in ways that make whales more vulnerable to disturbance. For example, Bain *et al.* (2006ab) found a larger reduction in foraging due to vessel traffic near Lime Kiln Point than near Salmon Bank. Areas where whales are most likely to be disturbed could be closed to vessels. In addition to idiosyncratic locations (the best example of which is the Robson Bight (Michael Bigg) Ecological Reserve in British Columbia where whales are easily disturbed), nearshore habitat merits special protection, as reflected in WWOANW guidelines suggesting vessels remain one-quarter mile offshore.

It may also be good to close areas to whale watching where there is little other vessel traffic. Boundary Pass might be an area that could be closed to whale-oriented traffic without significant economic implications, and whales would generally benefit from such a closure except when commercial freight traffic passes through.

*Time-based closures*

The legal basis for time-based closures is more challenging to justify. If operating guidelines are sufficient to prevent takes, then boats complying with those guidelines should be able to operate everywhere, all the time. If not, vessels should never be allowed to operate in such a manner, anywhere. However, there are a few habitat reasons such rules might be justified. Motor vessels pollute the air and water with burned and unburned fuels. Exposure to small amounts of such chemicals may be harmless, while larger quantities may be harmful. Limiting operating times is a mechanism for preventing significant habitat degradation.

Another rationale for time-based closures is that effects may be different at different times of year. For example prey is likely to be less abundant during the winter than it is during the summer. As a result, food will be harder to find, and the reduction in echolocation range during the winter may be more biologically significant than during the summer. Thus it may be justifiable to impose stricter regulations or close commercial whale watching altogether in the winter.

As mentioned above, incidental takes are likely to result on occasion from the best-intentioned actions of the most-expert operators. If rare enough, such takes will have negligible impact on the probability that the species will recover. Thus, NMFS can establish a quota for all vessel interactions, and allocate this quota among various marine vessel operator user groups (commercial whale watch operators, marine freight, commercial fisheries, recreational boaters, research vessels, government vessels, etc.). Time-based closures can be a mechanism in the establishment of quotas.

**Transferable Quotas**

A licensing system for commercial whale watch operators should be instituted for a few reasons. One, this will allow capping this activity to prevent degradation of critical habitat. Two, experienced operators should be capable of approaching whales more closely without harassing them than the general public can, and could be granted this privilege. Three, licensing would allow providing incentives for whale-friendly vessels (e.g., low noise, low to zero chemical emissions, high number of passengers per approach). Four, operators could be required to provide data about whale behavior, passenger loads, and quality education programs as well as contribute to monitoring. Licenses could be sold to those who do not intend to use them as a way for protection groups to limit whale watching further than NMFS deems necessary. Finally, since NMFS must limit the cumulative effects to current levels to prevent degradation of critical habitat, operators would have an incentive to help improve compliance by the public as it would allow larger quotas for them.

Modeling suggests that population consequences of short-term effects vary with prey abundance relative to whale abundance (Bain 2002a). Thus there may need to be annual adjustments in total quota as prey availability fluctuates.

All user groups could be assigned mitigation responsibilities. E.g., salmon restoration activities could offset the energetic consequences of vessel interactions. Involvement in restoration could be through volunteer labor (e.g., whale watch passengers and recreational boaters), payment of fees to a recovery fund (e.g., National Fish and Wildlife Foundation), or producing knowledge that can be applied to the recovery of the species. The success of mitigation could be part of the basis for setting quotas.

**Fishing vessels**

Two types of fishing vessels are commonly used in Southern Resident habitat. Vessels using nets are often involved in derby-style fishing where they are allowed to catch as many fish as they can in a very limited season. In contrast, hook and line fisherman (typically in sport boats) have a daily limit, but can fish on a large number of days. Thus netters would suffer significant economic and/or cultural consequences if they had to suspend fishing while whales are present.

However, an alternative management approach is to set a Total Allowable Catch. In this approach, if fishers were required to take a break while whales are present, the economic consequences of suspending fishing for minutes or hours would be small. Although this approach makes run specific management more difficult as managers have less control over when fish are caught, it should be considered as a way to reduce impacts on whales.

Sport fishing boats are generally relatively quiet while drifting or trolling. However, they are very noisy while running to or from port. There may be value to setting port to fishing ground routes that would reduce impact on whales. For example, sport fishing boats traveling from Roche Harbor to the south end of San Juan Island during the summer are likely to pass through whales, while boats from Friday Harbor generally would not.

**Balanced regulation**

When establishing rules, it is important to avoid over-regulating one group while failing to adequately regulate another. For example, it would seem desirable to limit noise exposure to 105-110 dB. However, Bain (2002b) did ambient noise measurements during fishing openings, and found noise in the vicinity of fishing boats typically exceeded this level. Griffin and Bain (2005) found consistently higher levels in the presence of a whale watching fleet composed of commercial and recreational levels. That is, limiting noise from whale oriented traffic is pointless while more intense noise sources are operating, and even within whale oriented traffic, the received level is often set by a loud vessel while other vessels are operating quietly. It would also be pointless

to restrict commercial whale watch operations while recreational whale watching goes unrestricted. Other chronic contributors to elevated noise levels are freight traffic, and recreational vessels in transit at high speeds. It may be possible to relax regulations on licensed operators in noisy locations, and steps, such as convoying ships, can be taken to limit the spatial and temporal extent of elevated noise levels from freight vessels. In summary, all vessel traffic should be subject to regulation, and the regulations should be balanced such that conduct with negligible incremental effect is allowed.

**Simple Rules for the Public**

It will be important to have simple rules for the public. The implementation of understandable rules will be complicated if rules are different for different vessels and in different locations or different times of year. The most protective standards should be applied to the public, and a licensing/permitting process implemented for those who need to approach more closely. E.g., research vessels can be permitted to follow less stringent restrictions than recreational vessels, but that poses challenges when recreational vessels use the research vessel as a role model for how to behave around whales. Similarly, if licensed commercial whale watch operators are given privileges, it will be challenging to avoid them serving as role models. Those who operate vessels in a way the general public should not should share the burden of educating the public.

Another challenge to simplicity is local rules. While the local rules likely to be implemented by San Juan County shortly may be a good interim step until NMFS can establish final rules, it would be unfortunate if other Washington counties implemented rules that differ from San Juan's. Further, there are potential complications if area closures are established, or if rules vary depending on whether or not the vessel is in an area that was excluded from Critical Habitat.

San Juan County's approach of having quantitative rules rather than the qualitative concept of harassment is good (similar to setting speed limits rather than a relying on qualitative sense of reckless driving). Such rules are simple and could be based on science that connects the objective standards to corresponding risk to whales that can be characterized scientifically.

I would suggest that NMFS encourage other Washington counties to adopt rules similar to San Juan's in the near term. This would allow easily enforceable regulations to be implemented that are stricter than current practice (Bain *et al.* 2006b found whales spent about a quarter of their daylight hours in the presence of vessels in violation of Be Whale Wise guidelines). While these rules are in place, NMFS could conduct research to better resolve what the distance limit should be. The experience with enforcement of local rules should prepare agencies for the more challenging task of enforcing more restrictive regulations. It would also allow time for contingencies to be incorporated into regulations based on experience (E.g., if a vessel is headed from Roche Harbor to Seattle and whales are spread out such that there is no corridor to pass through the group, what should the operator do? What sea conditions merit close approaches to whales for safety

reasons?). Thus vessel operators would be faced with one set of rules in the coming months, and only one new set of rules in a couple years when data are available to set quantitative limits in the right place.

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7600 Sand Point Way NE
Seattle, WA 98115

Dear Assistant Regional Administrator:

RE: Public comment regarding Protective Regulations for Killer Whales in the Northwest Region under the ESA and MMPA.

Having watched, either from shore or on the water since 2000, I strongly recommend that the following actions be taken in the following areas that NMFS is considering

***Establishing a minimum approach rule/Prohibiting vessel activities of concern:***
The current suggested 100 yard buffer is inadequate and untenable. Many vessel operators, both commercial and private, are unable to correctly identify and maintain this buffer.

The 100 yard buffer is also ineffective in keeping boats out of the path of oncoming whales. Numerous times, everyday, it is possible to witness a boat approach the oncoming path of whales, position itself to where the driver thinks the 100 yard buffer will be, park and then have the whales slightly adjust their course and swim well within 100 yards of the boat. This event happens daily and no amount of education, cajoling, or reporting seems to change this borderline behavior.

Paralleling vessels, motoring within 100 yards to the side of swimming whales also have no buffer zone in order to compensate for the whales' direction of travel. Often one can observe boat operators engaging in this behavior, skirting right at the edge of the 100 yard buffer only to have the whales change course towards them, forcing them to shut down and have the whales swim right under their boat.

I highly recommend a 200-400 yard buffer around the region's killer whales to compensate for the inherent difficulty in predicting whale behavior and to keep all vessels outside an area of possible disturbance of the animals.

Restrictions should also be in place that prohibit vessels from approaching a known area of whale activity from the front or rear. A 400 yard buffer should be in place both in front of and behind the path of travel, with boats approaching the scene (entering and exiting) from the side.

I also recommend that the current ¼ mile buffer along the Westside of San Juan Island be extended and become mandatory to all shorelines throughout the designated critical habitat area. Moving the boundary out will allow the whales using the near shore area to have a greater amount of open water between themselves and any vessel traffic, avoiding what is often a chaotic and unsafe situation. Too many times I have witnessed whales forced to make a decision that requires them to alter their behavior in order to navigate through near shore waters and a flotilla of boats. This added pressure is certainly not necessary and is entirely avoidable.

I also suggest that the current voluntary ½ mile buffer around Lime Kiln SP be extended to cover all the areas of the whales range where they are frequently seen using the tight inshore area. Whales using Turn Point, Eagle Point, Iceberg, Point Colville, Point Robinson, West Point, not to mention similar areas outside US waters, would all benefit from a vessel free area.

The current ½ mile buffer zone around the Lime Kiln SP area should also be extended to cover the area from Henry Island all the way to Iceberg Point on Lopez Island. This is major corridor for the resident whales, with the whales often traveling at about a ¼ mile off shore through this area. Moving the no-go zone out to ½ mile will give the whales the equivalent of a ¼ mile protection which was the original intent to begin with.

Time-area closures would also be a most effective tool in allowing the whales an opportunity to swim and hunt freely, away from vessel interaction. This could be difficult to enforce, but a curfew on whale watching could be established from say roughly 7p-10am, with the waters around the whales to be closed to whale focused activity during off hours. It would also be prudent to limit all vessels from engaging in whale related activities for more than 30 minutes per trip.

Consideration needs to be given for resting whales, as well as other behaviors easily disturbed by vessel traffic, in any regulatory plan.

***Operator permit/ Certification:***

I highly recommend the idea of regulating and permitting commercial whale watching. While this too will prove problematic, I agree with the Whale Museum that some sort of phased in permitting is indeed necessary.

Education also should become mandatory for all vessel operating in the critical habitat area. (Even if this simply means marking it clearly on all government created charts). Whether this becomes something that vessel operators must read and sign when applying for a fishing license or renewing their registration, all operators should be aware of the animals using the habitat in which they plan to utilize.

*Codification of "Be Whale Wise":*

I would like to see us quickly adopt, strengthen and in some cases rewrite the current "Be Whale Wise" guidelines. Although not designed as a regulatory tool, they provide a good jumping off point from which to create a more enforceable set of guidelines.

*Enforcement:*

Enforcement needs the tools, funding and knowledge to be effective stewards of these endangered animals. The tools will come in the codification of the guidelines, but sufficient funding must be secured so that they can dedicate, rather than borrow their time, to be on scene with the whales. Too often enforcement has to leave early or attend to other duties.

Officers also need to know how to safely operate a vessel around the whales and how to spot and mitigate situations before they happen. Being on the water and around killer whales is a unique situation and one that requires training. I would highly recommend that officers spend some time on the water with the region's NGO to acquire and understand the nuance necessary to enforce regulations.

*Education:*
A lot of these problems can be solved through outreach and education. This can take place at the dock or during a licensing process, but it can also happen much earlier, like in a school room setting.

*Other:*

It is obvious that the government and it regulating agencies have come to depend upon the region's NGO's for information and guidance when it comes to protecting this specific endangered species. In many cases they rely on them to be the "eyes and ears" when other folks are not around. And though they are not an enforcement program, Soundwatch has become the unofficial "hall monitor" when it comes to educating boaters and protecting these whales on a daily basis. Any plan to strengthen existing guidelines must contain in it a budget to fully fund this keystone program.

I am also greatly concerned that any regulatory language not be too tightly tied to the SRKWs only. The average boater will not be able to identify the differences between resident eco-types and transients.

***Thinking outside the box:***

This is a watershed moment for both us and the whales that share this habitat. I strongly request that those making the key decisions regarding these issues, take a moment to step back and take sometime to think outside the box.

I am well aware that case history needs to be considered, as does the best science available, when determining what and when regulations will be adopted and implemented. However, given the current state of the SRKW's and our ever growing consumptive attitudes, we need to be thinking ahead not back. I would encourage everyone to think as progressively as possible. Yes, change will be difficult to deal with, but policy makers need to be more attuned to what needs to be done rather than how everyone is going to deal with/react to it.

Please give us a decision that our children can look back on fifty years from now and say, "Wow! They really did something that made a difference."

Thank you for your time and consideration,

Jeff Hogan
Executive Director
Killer Whale Tales
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98136

**Comments re: ANPR request for comments for Protective Regulations for Killer Whales in the Northwest Region under the Endangered Species Act and Marine Mammal Protection Act, FR Vol. 72, No. 55, March 22, 2007, 13464-13467.**

Submitted Jume 20, 2007 by
Wild Fish Conservancy
PO Box 402 Duvall, WA 98019; 425/788-1167 fax 425/788-9634;
info@wildfishconservancy.org; www.wildfishconservancy.org
Prepared by
Nick Gayeski, Wild Fish Conservancy Aquatic Ecologist

Wild Fish Conservancy appreciates the opportunity to respond to the March 22, 2007 request for input regarding the ANPR concerning guidelines for regulating boat traffic to protect the Southern Resident Killer Whale Distinct Population Segment(?) listed as an endangered species under the Endangered Species Act. Please accept for the administrative record and your consideration the following brief comments.

The FR Notice acknowledges that boat noise and activity in the vicinity of individual killer whales, especially recreational/commercial boat activity directed at watching whales, "may cause unauthorized taking of killer whales or cause detrimental individual-level and population-level impacts." (FR Notice at 13464). Status reviews of the SR killer whale population by NOAA Fisheries pursuant to the ESA and by Department of Fisheries and Oceans Canada pursuant to Canada's Species At Risk Act (SARA), and recovery plans drafted by both agencies, have all acknowledged the potential risk that such boat activities may pose to the population. Several recent research reports, in particular Erbe 2002 and Bain et al. 2006, have provided preliminary quantitative estimates of the likelihood of harmful impacts due to whale-watching boat activities that are relevant to rule-making to regulate these activities under the ESA and the Marine Mammal Protection Act.

The SR killer whale population is impaired by a low and variable population growth rate, driven primarily by mortality rates of juveniles, young adults, and mature males (Olesiuk 2005, Krahn 2002, 2004). Among the prominent factors likely responsible for these high mortality and low population growth rates are stress and impaired immune function due to accumulation of organochlorines and other toxic contaminants, and reduced/impaired prey availability, particularly chinook salmon (Ford and Ellis 2005, Ford et al. 2005).

At present, birth rates of the SR killer whale population have been stable and close to (but somewhat lower than) the mean birth rate exhibited by the larger (but threatened) Northern Resident Killer Whale population (Oleisuk et al. 2005, Krahn et al. 2002, 2004), with fluctuations and declines in numbers being driven almost exclusively by mortality rates, as noted. However, the stresses experienced by individuals as a result of lack of prey, toxic contamination, and environmental stress (such as that likely to result from vessel noise and activity including whale watching) may also begin to affect birth rates in the near future, further imperiling both the survival and the recovery of the population. It

is, therefore, particularly important that known or reasonably suspected stressor activities be regulated in a highly precautionary and proactive manner.

Data reported in Bain et al. (2006) linked changes in the behaviors of individual whales and groups of individuals to the proximity of whale watching vessels. Erbe (2002) modeled the effects of boat noise associated with the numbers and speeds of whale watching vessels on whale behavior and threshold hearing levels. Wild Fish Conservancy believes that these findings provide evidence to support rule making that would significantly restrict private and commercial whale watching activities with regard to the following: minimum distance of closest approach to individual whales and groups of individuals, speed of approach, time of day and number of hours during the day that whale watching (from boats) is allowed, and number of days per week that whale watching (from boats) is allowed. In addition, restricted areas in documented principal feeding and traveling areas in the Strait of Juan de Fuca, the Strait of Georgia, and Puget Sound should be identified and whale watching (from boats) prohibited during periods throughout the spring, summer, and fall when whales are actively foraging.

Based on the data reported in Bain et al (2006) and Erbe(2002), boat activity within a minimum radius of 400 meters of individual whales and groups of whales should be severely restricted as to number of boats and boat speed. Erbe recommended a maximum allowable number of boats following a group not exceed five boats within 400 meters. This recommendation should be combined with regulations requiring that no boats be allowed to approach closer than 100 meters. Boat speeds within a minimum radius of 400 meters or greater should be less than 10 km/hour (following Erbe (2002), page 414).

Some of the data and results presented by Bain et al. (2006), Erbe (2002), and others are uncertain and provisional. However, they are the outcome of rigorous sampling and study designs, conscientiously carried out and conservatively interpreted. The fundamental problem with most of them arise from (small) sample size considerations that are common to ecological field studies. Nonetheless, the harmful nature of the impacts detected are real and the direction of impacts from increases in the kinds of activities monitored/measured are clear.

As with any ecological field study, impacts are likely to be better and more precisely detected and quantified as more data are acquired under robust sampling conditions. Wild Fish Conservancy believes that the purposes of the ESA are most properly served by establishing strong, risk-averse regulation of whale watching activities based upon the current data, as discussed. This would properly assure with high probability that the risks arising from the remaining uncertainty about impacts are not imposed on the listed species. Conversely, additional research directed by NOAA Fisheries with the financial assistance, in part, from interested parties such as the whale watching industry may result in scientifically credible information that would warrant loosening some of the restrictions that are supported by current data. The whale watching industry thus would have a financial incentive to support the additional research. What is not warranted is failing to impose more restrictive regulations on whale watching than exists at present on

the grounds that current data on harmful impacts is not perfect and is surrounded by some degree of uncertainty.

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**Orca Relief Citizens' Alliance Recommendations:**
**Protective Regulations for Killer Whales in the Northwest Region under the Endangered Species Act and Marine Mammal Protection Act**
**June 19, 2007**

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In 1998, Orca Relief Citizens' Alliance was the first organization to speak out on the negative impact of whale watch vessels on the southern resident killer whale population based on the decline of this orca population over the previous years. We seized the initiative and collected over 1,500 signatures requesting NMFS to establish stricter regulations for boat-based whale watching in Washington waters. Additionally, Orca Relief conducted both observation-based and analytical research showing how the whales are negatively impacted by the effects of boats. We are delighted that nine years later NMFS is determined to add major protection to the now endangered southern resident orca.

Over the past few years, we have clearly seen the negative impact whale watch boats have on the orca: increased metabolic rates (17% to 20% increased food demand in a time of limited prey resource), increased swimming distances, masking of communication and echolocation due to surrounding boat noise, difficulty in finding prey due to boat noise, and an increase in the number of collisions with resulting injury and even death. Pollution arising from oil and gas leakage from boats is a yet unstudied but undeniably dangerous consequence for the whales resulting from surrounding boats.

While the MMPA clearly prohibits the 'take' of marine mammals, which includes the pursuit of any marine mammal among other definitions, NMFS has not engaged in pursuing any boats in violation of 'pursuit' of the southern residents. Pursuit is defined as:

> pursuit - noun
> **1** the action of following or pursuing someone or something: *the cat crouched in the grass* ***in pursuit of*** *a bird* | *those whose business is the pursuit of knowledge.*
> • a bicycle race in which competitors start from different parts of a track and attempt to overtake one another.
> • Physiology the action of the eye in following a moving object.
> **2** |with adj.| (often **pursuits**) an activity of a specified kind, esp. a recreational or athletic one : *a whole range of leisure pursuits.*
> PHRASES
> **give pursuit** (of a person, animal, or vehicle) start to chase another.

Legally, this could be a solution to tightening the MMPA and ESA law by simply clarifying to all whale watch vessels that upon encountering southern resident killer whales as well as all other marine mammals, vessels must stop, let the whales go by, and then continue on with their voyage, avoiding the whales in their travel.

Orca Relief also suggests that all listed vessel activities (herding, surrounding, positioning in the path, separating calves from adults, approaching at high speeds, running vessel through a group of whales) should be prohibited and made illegal without any requirement that boats change the behavior of the whale (unlike the provision in the

MMPA which requires showing proof of whale behavior change to have occurred due to the harassment).

Orca Relief has pointed out on many occasions that voluntary guidelines have neither worked in the past nor do they work presently. This has been discussed at length during conferences and supported by NOAA enforcement in detail for any marine species (Mark Oswell, Office for Law Enforcement, Silver Spring, MD). The inability for voluntary guidelines or self-control by boats in the vicinity of whales has been evident over the last few years in Washington State waters.

A growing body of research regarding the effect of vessels on cetaceans has become available. As a result of some of these research findings, NOAA has recently instituted special regulations for two cetaceans species: boats are prohibited from approaching Hawaiian Humpback whales (*Megaptera novaenglicae*) closer than 100 yards; and on the east coast, it is prohibited to come within 500 yards of northern right whales (*Eubalaena glacialis*). Northern right whales number approximately 350 individuals in the North Atlantic.

For killer whales, it is presently suggested to keep a 100-yard distance between boats and whales. This distance was arbitrarily based on avoidance behavior observed in gray whales (*Eschrichtius robustus*) in the 1970s. Since then, it has become evident that baleen whales' sensitivity to boats is very different from that of odontocetes. Additionally, over the last 20 years the southern resident killer whale population has become very well known due to human interest in cetaceans, the media and the ease of accessibility from major urban areas in two countries (US and Canada). There are now more than 90 commercial whale watch vessels, which advertise heavily in magazines and newspapers, on the radio and the internet and through brochures about the excitement of watching whales. These companies take visitors out on the water to watch the southern resident population of orca. Presently, about 500,000 visitors watch the southern resident killer whales from a boat platform on an annual basis (The Whale Museum, 2006). As a result of the the easy recognition of large numbers of commercial whale watch vessels with their unique boats and Mustang suited passengers surrounding and following the whales, the orca are much easier found by private boaters who in turn follow the whales as well. Orca Relief scientists have counted as many as 145 vessels surrounding 22 whales at one time on several occasions.

Orca Relief has proposed new regulations to NMFS on several occasions and we would like to take this opportunity to expand on our suggestions. We believe that a mandatory moratorium on whale watching covering the west side of the San Juan Island waters (south Lopez to the northern end of Stewart Island) for both commercial and private vessels for a period of three to five years will be most beneficial to the southern resident killer whales. This period of having a 'killer whale sanctuary' would allow the population to feed, travel, rest, socialize and reproduce without interruption or noise disturbance in their most important habitat. We realize that a complete ban on water-based whale watching might be unattainable due to logistic and legal difficulties.

We suggest the following protective measures for on-water activities for the southern resident killer whales:

Distance: The distance between any one or more boats needs to be increased. We believe that a minimum of 400 yards in front of, behind, and to each side of a moving pod of orca and individual killer whale is necessary based on research findings by Williams et. al. 2006, Bain 2005, Bain 2005, Kriete 2002, and Bain, Kriete and Dahlheim 1998. This will in part permit the whales a safer passage and more space to travel, forage, rest, socialize, and reproduce.

Calves in particular need the added distance protection from vessels. Calf mortality is higher among southern resident killer whales than among other orca populations (Olesiuk et. al. 1986). Other countries have identified the vulnerability of young cetaceans to boats and have provided added protection to calves. For killer whales, an important fact that has not been addressed in any previous discussion is the nursing of calves. Observations in captivity have shown that calves engaged in nursing need long distances for gliding alongside their mothers, uninterrupted by turns and stops to allow for nursing to be effective. Any turning or changing of swimming direction will interrupt the nursing process as has been observed at the Vancouver Aquarium and Marineland, CA with newborn and young calves.

At a distance of 400 yards, it is still easily possible to observe whales from a vessel. Any commercial operator can invest in binoculars for their passengers for their viewing enjoyment. Additionally, it is important to have the same distance requirement from all sides surrounding the whales to make it easier for boat operators to keep the distance consistent.

Boat operators should only approach whales from the seaside direction and avoid being caught in between the shoreline and the whales. If a boat is unexpectedly caught between the shore and whales within 400 yards, it must remain at this location until the whales have passed by and moved ahead.

These distance regulations must apply to any location in Washington, Oregon and California as the whales use all of these waters, both inland and offshore, for their life processes.

Upon seeing or encountering killer whales, boaters should disengage their engines or preferably turn their engines off. Equipment such as depth sounders and radar must be turned off.

Kayaks: as kayakers are vulnerable in offshore waters, we recommend that kayakers raft up together (if more than one kayak is in close vicinity) and pull up to the shoreline to get out of the whales' path. Kayakers should remain in this safe location until the last whale has passed them and has moved at least 400 yards away.

Time/Area closures: We recommend two consecutive 'Whale Days' which will be defined as boat free days for the benefit of the southern resident killer

whales. This will encompass no boats approaching or following the orca for this time period in any marine waters in Washington State. It will give the whales the opportunity to temporarily recover their hearing capability as well as allowing the whales the opportunity to engage in life processes without any disturbance from powerboats.

During the five permissible days of whale watching per week, whale watching is limited to the hours of 10:00 to 14:00 (or any other 4-hour block).

These time-restrictions and area closure will be the development of a sanctuary-like area for the southern resident orca. This is especially important during the spring, summer and early fall months when the whales feed heavily in this area.

Commercial fishing: An exception to the 400 yard distance should be given to commercial fishermen during opening days. Regulations do apply when the vessels are en route to and from their commercial fishing spots.

Private fishermen: No exceptions should be granted to private fishermen. If a boater/private fisher is surprised by the presence of orca, boaters should pull in their lines and remain stationary with their engines, depth sounders and radars turned off. Fishing can resume when all the whales have passed by.

Research Vessels: An exception to the 400-yard distance should be given to boats that were given research permits. However, 'Whale Days' apply to research vessels as well. Research vessels should attempt to set a good example in Whale watch etiquette to all other vessels and only approach closer than 400 yards if necessary.

Swimming with whales: No swimming with southern resident killer whales shall be allowed.

Feeding of whales: It shall not be allowed for people to feed southern resident killer whales.

While Orca Relief understands that education is an important way to inform people about our fragile marine environment, it is not in the best interest of the southern resident killer whales to be exposed to hundreds of thousands of visitors on boats and the significant negative impact of noise and pollution on a yearly basis. The economic impact will affect relatively few business owners involved in commercial whale watching in the Washington State area while the loss of the southern resident killer whale population will affect millions of people.

Commercial Whale Watching: We recommend initiating a permit program for all commercial whale watch operators. A fee will be collected from all

whale watch companies conducting whale watch tours in Washington State waters. These fees will be used to fund marine enforcement to protect the southern resident killer whales. Additionally, we recommend limiting the number of commercial whale watch boats on the water in the vicinity of whales on a daily basis. This can be achieved through a lottery (daily, weekly, monthly or seasonally). Based on research findings we recommend that no more than 10 commercial whale watch vessels are watching the southern residents at any time. We also suggest requiring commercial boat operators to pay a fee toward an environmental protection fund benefiting the southern resident killer whales based on the number of passengers taken out. This ensures accountability and information from for-profit agencies on how many passengers were watching whales, and how long boats were with whales. Boat logs with information on the whales' location and for what period of time boats were involved in whale watching should be provided to research organizations as they provide important data for scientists and policy makers.
We also suggest having all commercial vessels outfitted with 4-stroke engines by 2010.

International Boats: Regulations must apply to boats flying the American flag as well as to boats carrying flags of other national origin. Since whale watching can be seen as commercial activity in the waters rather than any kind of passage through, all whale watch regulations must apply to all nations. The amicus brief to the 9th Circuit on the Intertanko case declared the waters of San Juan County internal which makes the argument of innocent passage moot.

Information Distribution: The regulations must be passed on to both private and commercial boaters. Washington, Oregon and California residents can receive the new regulations enclosed with their yearly boat registration similar to the Washington State carbon monoxide education campaign. Boats can be required to have a sticker attached to the hull similar to their registration number. Charts will be printed with the new regulations. Harbor entrances can have information displayed on signs attached to buoys similar to the ones in Hawaii, including navigational corridors for entering/exiting. Buoys and/or signs on the west side of the islands can be used to alert boaters to potential whale traffic and distance requirements.
Posters with whale watching regulations can be posted in every marina, at every fuel station, on ferries and in terminals.

Enforcement and Penalties: Enforcement officers must be present to enforce the regulations. Part of the costs to cover enforcement can be recovered through permit fees obtained from commercial operators. Penalties should range from a warning or small fee at a vessel operator's first offense to

vessel confiscation at a third offense.

Orca Relief is delighted that stronger regulations will be put into effect by NMFS to protect the southern resident killer whales in the near future. We are convinced that shore-based whale watching will become the way of the future to enjoy this endangered group of killer whales.

Thank you very much for your attention.
Sincerely,

Birgit Kriete.

Birgit Kriete, Ph.D.
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June 5, 2007

Lynne Barre
Donna Darm, Chief
Protected Resources Division
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Portland, OR 97232
Via email: orca.plan@noaa.gov

Thank you for the opportunity to comment on the potential regulations to protect killer whales in Washington State from the effects of various vessel activities, being considered as part of the evaluation of current vessel guidelines and the need for regulations and/or protected areas in the proposed recovery plan dated November 2006.

The American Cetacean Society (ACS) is a non-profit, volunteer membership organization headquartered in San Pedro, California with 6 regional U.S. chapters and members in over 20 countries around the world. Founded in 1967, ACS is the oldest whale conservation organization on the planet. Our mission is to protect whales, dolphins, porpoises, and their habitats through research, education, and conservation actions.

The Puget Sound Chapter of the American Cetacean Society (ACS) was re-established in the summer of 1999 and has more than 60 members. Centered in Seattle (with members throughout Washington, Oregon, Alaska, and Idaho), we work to protect whales, dolphins, porpoises both locally and worldwide. We believe the best way to protect cetaceans is by educating the public about these remarkable animals and the problems they face in their increasingly threatened habitats. ACS Puget Sound actively promotes research through our Research Grants fund and our Vashon Hydrophone Project. Moreover, ACS Puget Sound educates through its publications, guest lectures, teaching aids, and community events.

We offer the following specific recommendations as NOAA Fisheries considers potential regulations on vessel activities around the Southern Residents, outlined below.

ACS Puget Sound supports the current *Be Whale Wise* guidelines and public education campaign. Based on the existing buy-in and awareness of the program with commercial whale watch operators, and to a lesser extent the boating public, we recommend using these existing guidelines as the basis for regulation of vessel activity under the Recovery Plan. The *Be Whale Wise* guidelines should be made mandatory rather than voluntary, and adherence to the guidelines by commercial and private vessels must be enforced by the appropriate agencies.

Additionally, we believe ongoing monitoring of boat and whale behavior must be done, with funds being made available for Soundwatch and M3 to make that monitoring possible in geographic regions where vessel impacts are most intense for the Southern Residents. Ongoing research and subsequent modification of the guidelines, if deemed necessary based on the data collected, must also be supported.

Another component of the current *Be Whale Wise* program that should be enhanced is education. We recommend increasing the resources available for education of the boating public through the aforementioned Soundwatch and M3 programs, posters/flyers at marinas, local boating clubs/organizations and other methods of educating boat owners/operators. Additionally, we recommend taking advantage of the educational opportunity of onboard naturalists that work on commercial whale watch boats. Whale watch operators should be required to have onboard naturalists (most already do), and ACS Puget Sound has expertise and educational resources to contribute to a standardized program as a requirement for these naturalists, with classes and materials that are made widely available.

We also make two recommendations that go beyond the *Be Whale Wise* guidelines. The first is to increase acoustic monitoring throughout the range of the Southern Residents to better understand what sounds are present in the environment and how they might affect the whales. This could be done by expanding existing monitoring systems such as the ACS Vashon Hydrophone Project and the Salish Sea Hydrophone Network, and by making controlled measurements of anthropogenic sounds sources. The second is recommendation is to improve cross-boundary cooperation, as regulations will be meaningless if they do not apply in Canadian waters.

Thank you for this opportunity to comment on the proposed rule-making process. We look forward to working in tandem with NOAA Fisheries and other organizations to find the best ways to protect the Southern Residents and the marine ecosystem on which they (and we) depend.

Sincerely,

Uko Gorter, president
Ann Stateler, vice president, VHP coordinator
Candice Emmons, secretary
Joe Olson, past president, technology chair
Peggy Foreman, education chair
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**Subject:** COMMENTS on Vessel Regulations
**From:** Susan Berta <susan@orcanetwork.org>
**Date:** Wed, 20 Jun 2007 10:37:13 -0700
**To:** Orca.Plan@noaa.gov

TO: NOAA Fisheries
FROM: Orca Network
DATE: June 20, 2007
RE: **Public comment period on potential regulations to protect killer whales in Washington State from the effects of various vessel activities**

**Below are comments from Howard Garrett and Susan Berta of Orca Network, regarding potential regulations to protect Washington orcas from vessel activities:**

~ **Mandatory Boater Safety, Etiquette and Education classes before licensing vessels** of any kind, with special permits or licensing of Whale Watch or Ecotour vessels. We find many private/recreational boaters are wanting to learn more about how to be better boaters. The CG Auxiliary offers safe boating classes, but we would like to see more mandatory education in place for those who go out on the water. We can't drive a car without passing tests, it seems to make sense that boaters should know what they are doing before taking to the water, both for their safety as well as others out on the water, including whales and marine mammals. Licensing or permitting WW or Ecotour boats would help determine the actual number of WW or nature vessels out there, and enable better communication to the industry. The NWWOA is a good start and have been wonderful in assisting with the creation of Be Whale Wise Guidelines, but not all commercial vessels are members of the Association.

~ **Increase funding for and implementation of educational efforts**. We feel the biggest problem is with private recreational boaters, or fisherpersons who may not be aware of the whales' presence or how to behave around the whales. We have found that most recreational boaters really WANT information! Through our Whale Sighting Network, we have many requests from new boaters looking for information on what to do if they are boating around whales, and we give out the Be Whale Wise guidelines, website, brochures, & posters often, and have found most boaters are really happy to have and follow this information. Increased funding for programs like ours and the Whale Museum's Soundwatch Educational program would go a long way in improving boater etiquette around whales, and likely would be more successful than regulations and fines, though the extra teeth of having actual regulations would help to enforce the few who do not want to be educated.

We have also discovered a surprising effect of our Whale Sighting Network email list on the behavior of boaters - recreational, commercial, and research. We have nearly 2000 participants on our Whale Sighting Network e-list, and they have created some peer pressure through reporting not only on where the whales are & what they are doing, but also reporting on what the boats around the whales are doing, both good and bad.
No one on the list wants to see their bad boating behavior sent out to the rest of the list, and when good boating behavior is reported, that is something that motivates and encourages further good boating behavior.
Most commercial WW operators know that they are being watched by people watching whales from the shoreline, something Orca Network as well as other organizations encourage, and they know that if they approach the whales too closely or don't follow the guidelines, that behavior and the

description of their boat will be on the next whale report sent out to the Sighting Network. Private boaters also are affected by this, and learn from others' mistakes - in fact, many of our reports of "bad boaters" are regarding the behavior of recreational boaters, reported by other boaters on our list who are educated about Be Whale Wise Guidelines.

**Whether it is knowing they are being watched from reporters on the shoreline, or by Sound Watch or DFW, all boaters tend to give the whales extra room when they know they are being observed. Efforts to increase observation & therefore improve compliance with the Be Whale Wise guidelines (or regulations) is likely a key issue to be addressed.**

~ **Increase funding for SoundWatch & State & Federal Enforcement efforts**. As noted above, educational efforts will likely be more effective in improving boater behavior around whales, but there are always cases where boaters will not listen to Sound Watch directives or follow Be Whale Wise Guidelines.
An increased presence on the water by SoundWatch AND Enforcement would create pressure on boaters to stay away, and if regulations can be drawn up that are fair and enforceable, this could help those who will not be educated and persist in harassing whales or other marine mammals. Having more of an enforcement presence on the water to back up Sound Watch's efforts would be helpful in their effectiveness.

~ **Promote or require use of biodiesel in Whale Watch as well as private vessels.** This is less toxic in the event of leaks or spills, as well as the fumes from the fuel that can hang above the surface of the water and be taken in when the whales surface to breathe.

~ **Explore the possibility of permits for commercial whale watch vessels, with a set limit on number of vessels with the whales, or on the amount of time any vessel may stay with the whales**. This may be difficult to do in an area where the industry has been operating and growing for a number of years without a system in place, but our experience in San Ignacio Lagoon showed that this can be done, though the situation here with the Southern Residents would be much more difficult due to geography, the movement of the whales, and the fact that the industry is already established here. But looking to the future, it might be better for all involved, including the whale watch operators, to have limits on the number of boats, or the amount of time spent with whales.

~ **The 1/4 and 1/2 mile limits around Lime Kiln State Park seem to be an effective means to keep boats out of areas frequented by the orcas**. We would like to see this continued, as well as exploring other areas that this type of limit would work well to give the orcas a little extra space.

~ **Encourage or require commercial Whale Watch boats to provide accurate educational experiences for their passengers**, including trained naturalists, and educational materials that teach about the natural history of the whales and their habitat, their need for salmon and clean waters, etc. The Whale Watch industry can be a powerful educational and advocacy-building force for the Southern Residents. Most WW operators do provide trained naturalists and good information, however, this is not consistent throughout the industry, and an increased effort to provide good information about the whales to WW boat passengers would benefit the whales in many ways.

~**Gray whales and Humpbacks** - there is increasing commercial boat pressure on gray and humpback whales. Though these are not covered in the ESA Listing for So. Resident orcas, it is our hope that if regulations are passed for whale watching around orcas, that other species are included in the regulations or guidelines, and that special consideration is given to each species' behaviors or

travel patterns. A presence of Sound Watch or enforcement would be helpful during the spring feeding times of the local group of gray whales that feeds in Island County waters March through May. this is a small community of whales with an increasing number of boats watching them, and with no enforcement or Sound Watch presence to date.

~ **Commercial Freight traffic** - though there isn't likely anything that can be done about the increasing number of freighters coming through the inland waters, looking at the routing of vessels further away from known orca feeding areas during the summer months could help reduce the impact of these vessels on Southern Resident orcas.

~ **Military and Coast Guard vessels and sonar, explosive exercises, etc.** This is an issue that still needs to be addressed, though we understand there has been some improved communication and awareness with the Navy in recent years. But more needs to be done to reduce the impacts of Navy sonar and military exercises on the Southern Resident orcas. We realize this is a difficult task in these days and times, but urge NOAA to not abandon this issue.

Thank you for your efforts on behalf of the Southern Resident Orcas -
Susan Berta & Howard Garrett,
Orca Network
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Greenbank, WA 98253
info@orcanetwork.org
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**Subject:** comments on potential nmfs rule for SR orcas
**From:** acarey <acarey@vashonislandrealestate.com>
**Date:** Wed, 20 Jun 2007 16:57:47 -0700
**To:** Orca.Plan@noaa.gov

This comment is being made to stongly urge NOAA and NMFS to address the issue of vessel and/or underwater noise interactions by creating and implementing strict measures of protection for the Endangered Southern Resident Orcas.

As a long time Orca Naturalist I have witnessed first hand the impacts that in particular, whale watching boats have on the SR's as they utilize the critical habitat areas of the San Juans. Scientific research has shown without question that at a minimum, whale watching boats are causing short term behavioral shifts to the SR community. It has been shown that elevated underwater noise from whale watching boats masks important communication calls and causes significant pressurs to an unfortunately fragile species. Common sense would dictate that these forced changes in diving and surface time, changes in travel patterns and interruption and interference to feeding and communications can only be detrimentally and adversely effecting the whales and their continued existence.

Federal regulations are very clear in the definition of take under the Marine Mammal Protection and Endangered species acts. It is clear that the impacts from whale watching boats i.e physical impedence, interference to hearing communications and feeding due elevated underwater noise levels, can only be measured as "take" when properly applying regulations that are already in place.
While it may be an unpopular decision in the whale watching operators community, it seems only prudent that rules be implemented at the federal level regulating whale watching operators. I would suggest that at a minimum a moratorium be placed on whale watching until such time that long term impacts to the Orcas can be properly addressed.

I also offer that while whale watching boats may be the most obvious, NOAA should also look very closely and include in an rule making, the impacts from larger vessels -particularly in relation to underwater noise impacts. Virtually all vessels transiting through the entire range of the Orcas critical habitat are producing underwater noise levels that surpass the current federal guidlines for incidental take and while it would be unreasonable to suggest all shipping be halted, it is not unreasonable to require equipment upgrades etc. to lessen to impacts these vessels are having on the underwater noise environment. Additionally, it is not unreasonable to deny the introduction or in some cases continuance of large vessel actions in the whales critical habitat i.e industrial facilities, ports, military training etc

I appreciate the opportunity given to present comments and look forward to upcoming information from NOAA as the process moves forward

Amy Carey
South Sound Orca Advocates
po box 407
Vashon, WA
98070

# *Fred Felleman*

**3004 NW 93rd St.**
**Seattle, Washington 98117**
**felleman@comcast.net**


Assistant Regional Administrator
Protected Resources Division
Northwest Regional Office,
National Marine Fisheries Service
7600 Sand Point Way NE, Seattle, WA 98115
orca.plan@noaa.gov

18 June 2007

Assistant Regional Administrator:

Thank you for the ability to flesh out the comments I made at the public hearings in Friday Harbor and Seattle. These comments follow my 18 April 2007 comments to the Docket No. 070125020-7020-01; ID 010907A as well as those written on the conservation and recovery plans.

I do not believe it will be sufficient for NOAA to simply implement a distance restriction, as you have done for other cetacean species, to mitigate the impacts of whale watching on the endangered population of southern resident killer whales. While I have gained many insights on killer whale behavior having studied and photographed them in the wild since 1980, I do not feel compelled to offer a hard and fast recommendation for this rulemaking at this time. While I do support the implementation of an enforceable set of rules, the outlines of such I will summarize, I believe that it would be best if NMFS first hosted a whale watch workshop to summarize the comments they have received and to review the state of the knowledge as to known whale watching impacts and mitigations. I believe there should be an opportunity for proponents of specific proposals to present their ideas and supporting documentation so that the public and NMFS could understand the rationale for the proposals. I do not support the idea that such a workshop should be held associated with a hearing on a specific proposal. Rather it should be held prior to the development of a proposal NMFS seeks comments on.

I believe any regulation should be comprised of five parts: 1) areas where no boats are allowed; 2) operating restrictions in areas where boats are allowed; 3) operating restrictions and reporting requirements in areas where permitted boats are allowed; 4) ability to initiate pilot projects to test alternative approaches to permitted vessels; 5) flexibility for enforcement officers to ticket Canadian or US boaters who are conducting themselves in a reckless or negligent fashion without having to prove it resulted in a change in whale behavior. I will address each component separately.

1) Areas Where No Boats Are Allowed – The Southern Resident killer whales have selected Haro Strait as the core area for their Spring-Fall distribution as the Northern Residents have selected Johnstone Strait due to their ability to intercept salmon heading for the Fraser River as my 1986 thesis on the Feeding Ecology of the killer whale and subsequent 1991 publication presented. As salmon species, especially Chinook, continue to decline in abundance, it is imperative that the whales be able to find prey with a minimum amount of disturbance. While Haro Strait is six miles wide, it appears that the whales utilize the near shore environment along the eastern shores of Haro Strait often. They may use the relatively shallow water and shoreline as boundaries to minimize the alternatives their prey have for escape. Whatever the reason for it, the whales themselves become more vulnerable to disturbance when they are close to shore for their own evasive alternative are limited. Therefore it is critical that any proposed whale watching regulation recognizes this situation and offers a buffer for the whales from any boats approaching while they are close to shore. At a minimum this should be ¼ mile but may need to be broader based on the available information. It also should not be limited to the Southern half of San Juan Island but should include the island's entire west side as well as the west sides of Henry and Stuart Islands. The South end of Lopez should also be considered for inclusion.

   Exceptions need to be made for entries into harbors such Mitchell Bay, Mosquito Pass and Spieden Channel. Simialrly, I have found myself inshore of the whales when launching my boat or kayak from my cabin on Smugglers Cove as I am sure is the case for people who put in at San Juan County Park, Deadman's Bay or False Bay. Furthermore, the same reason the whales spend a great deal of time along the Westside of these islands is why many sports fishermen congregate there as well. While I do not propose we ban this activity as long as there is a fishery, I believe we need to regulate these boats as they transit to and from the fishing grounds. Very often these vessels hug the west side and need to be educated to transit further offshore.

2) Operating Restrictions Where Boats Are Allowed – A distance and code of conduct need to be set in which non-permitted boats are allowed to watch the whales. Again, I believe the exact details need to be vetted through a public process, but it should be no closer than 200 yards. Within that distance vessels should follow the current Be Whale Wise guidance as well as the go slow zone extending out to 400 yards. This distance should be set based on the latest information on acoustic masking of calls and clicks as well as to mitigate potential for physical disturbance and air pollution considerations.

3) Operating Restrictions and Reporting Requirements for Permitted Vessels - Any vessel wishing to watch whales inside of the distance set for all boats needs to be subject to a higher standard. In addition to operating behaviors, such as being in neutral or shut down that is deemed appropriate by the best available science, these vessels need to be clearly marked with a permit flag such as research vessels currently are required. This accomplishes two things. It distinguishes the vessel as having agreed to specific operating and reporting requirements and it also identifies them by their permit number so enforcement officers can easily track them over time.

I am not prepared at this time advance specific distance and operating conditions, for I believe they would be best arrived at after the public forum is held, however, I do not suggest any reason for whale watch vessels to ever get closer than 100 yards. Those that do get permits to get closer than others need to provide NMFS with a signed statement that they understand the regulations and agree to abide by them. In addition, they should have to provide NMFS with information about the amount of time they spent with the whales within that permitted distance and the geographic location of those encounters. In this way NMFS can keep track of whale watching effort over time and use the information determine if there are any major changes in the temporal or spatial distribution of whale watching activity to inform future regulations.

If a vessel fails to provide such information, their permit should be revoked and a fine assessed. A small service fee should be established to administer this program.

4) Ability to Initiate Pilot Projects to Test Alternative Approaches to Permitted Vessels - Rather than having to initiate a new rulemaking process as new information becomes available, NMFS should reserve the right to initiate changes in the operating or reporting protocols to which permitted vessel are subject. There should not be a problem communicating with these vessels mid season given they have all registered with NMFS.

5) Flexibility for Enforcement Officers to Ticket Canadian or US boaters – Critical to any specific proposal are two overriding issues. First is the ability for an enforcement officer to ticket a boater for reckless or negligent behavior around the whales even if they are abiding by the distance restrictions. Guidance should be drawn from the Be Whale Wise Guidelines for Boaters, Paddlers and Viewers, but under no circumstance should an enforcement officer be limited in having to prove such activities changed the whales' behavior. Secondly, a mechanism needs to be created that allows for the seamless enforcement of US whale watching regulations on vessels registered in Canada if one does not currently exist. The reason for this is the majority of whale watching effort originates from Canada so any regulation that does not address this issue would badly miss the objective of minimizing the impact of whale watching activity on the whales.

Sincerely,

Fred Felleman, MSc.
WAVE Consulting

Felleman, F.L. (1986). "Feeding Ecology of the Killer Whale (Orcinus orca)." Master of Science Thesis: School of Fisheries, University of Washington, Seattle, Washington, 163 p.

Felleman, F.L., J.R. Heimlich-Boran and R.W. Osborne (1991). "Feeding Ecology of the Killer Whale (Orcinus orca) in Greater Puget Sound." In: K. Pryor and K.S. Norris (Eds), Dolphin Societies, Discoveries and Puzzels. University of California Press, Berkeley, pp 112- 147.

June 18, 2007

Assistant Regional Administrator
Protected Resources Division NW Regional Office
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, WA 98115

To Whom It May Concern:

The Seattle Aquarium is committed to conservation of the marine environment. We are grateful for this opportunity to comment on proposed regulations regarding vessel effects on the endangered Southern Resident Community of orca whales. Wise management of vessel traffic is an essential component of the larger effort to protect orcas that includes habitat protection, fisheries management, pollution reduction and climate change.

Although the effects of increased vessel traffic on orcas are still being determined, emerging research suggest that vessel effects may at least alter whale behavior and at most be a critical factor impeding their recovery. The Seattle Aquarium supports research suggesting that vessels can have negative effects on orcas by interfering with echolocation and communication, by altering their behavior, polluting air at the water's surface, and by the possibility of a ship strike.

Using a precautionary principle, we believe it is prudent to address vessel interactions by strengthening the voluntary *Be Whale Wise* guidelines to be mandatory. We need clear **enforceable** rules on the water. Voluntary guidelines are not a deterrent to the rare individuals who knowingly harass whales. In support of stronger *Be Whale Wise* guidelines, we would like to see expanded outreach and education to the boating public. Fantastic opportunities exist to engage boaters and create orca advocates in addition to ensuring that captains behave respectfully on the water.

In recent years the behavior of whale watching companies has improved greatly. We comment Soundwatch for their positive influence and support the conservation efforts taken in recent years by both private and commercial vessels. We recommend more funding for Soundwatch to increase this outreach on the water.

Ocean noise is increasing through shipping, active sonar, construction, explosives, seismic testing and drilling. The sense of hearing is a toothed whale's most important sense. We implore NOAA to use the best science and technology to prevent noise levels that are directly harmful to orcas and reduce sources of noise that interfere with the frequencies that they use to hunt and communicate.

It is widely recognized that the Southern Resident community faces myriad complex challenges in their recovery. Research points to over harvest, declining salmon runs, the bioaccumulation of toxins, and harmful vessel effects as likely culprits for their listing. This population is at such a small number that it is vital to address all of these issues. Although we believe vessel effects have negative effects on the whales, we believe that diminished salmon runs and the

bioaccumulation of toxins are more pressing problems for the whales. We hope to see these problems addressed with respect to the Southern Resident Community in addition to vessel effect regulations.

The Seattle Aquarium supports the best science-based solutions and will continue to partner with NOAA Fisheries to educate the public about our treasured Southern Resident orcas and how they can help conserve them.

Sincerely,

John Braden
Director
Seattle Aquarium

June 2007

To Whom It May Concern:

My name is Monika Wieland and I am a recent biology graduate from Reed College in Portland, Oregon. I have spent my last five summers on San Juan Island watching the orcas, and my time has been spent as a shore-based acoustics research intern for The Whale Museum, working as a naturalist on a commercial whale-watching vessel, and volunteering on Soundwatch, The Whale Museum's boater education program. My undergraduate senior thesis at Reed College was on acoustic behavior of the Southern Resident orcas, and I have presented data from my acoustics research at the American Cetacean Society conference in 2003, at Reed College in 2006, the Pacific Ecology and Evolution Conference in 2007, and the Students for the Society of Marine Mammology meeting in 2007.

Having spent a lot of time watching the whales both from shore and from a boat as well as listening to countless hours of the Southern Residents vocalizing (and consequently the ambient boat engine noise), I am of the opinion that the dominant impact vessels have on the whales is via sound and not through physical interference. As such, I strongly support the current Be Whale Wise vessel guidelines that promote slow vessel speeds around the whales. I also support the guideline that no vessels should be under power within 100 yards of the whales. I think the buffer zones provided to the killer whales along the shoreline and near Lime Kiln Point State Park should be established (and even expanded in size) as official protected areas. I strongly urge that these current guidelines become stricter, enforceable regulations.

It is well known that orcas rely on sound to navigate and communicate. Presented below is a figure from my undergraduate thesis that compares mean discrete call durations in the past (1978-1983) compared to mean discrete call durations in the present (2005-2006). Of the 21 call type comparisons that were possible, 16 call types showed a significant change in mean duration. Of these 16 call types, 14 showed a significant increase in duration, demonstrating a trend of call types getting longer:

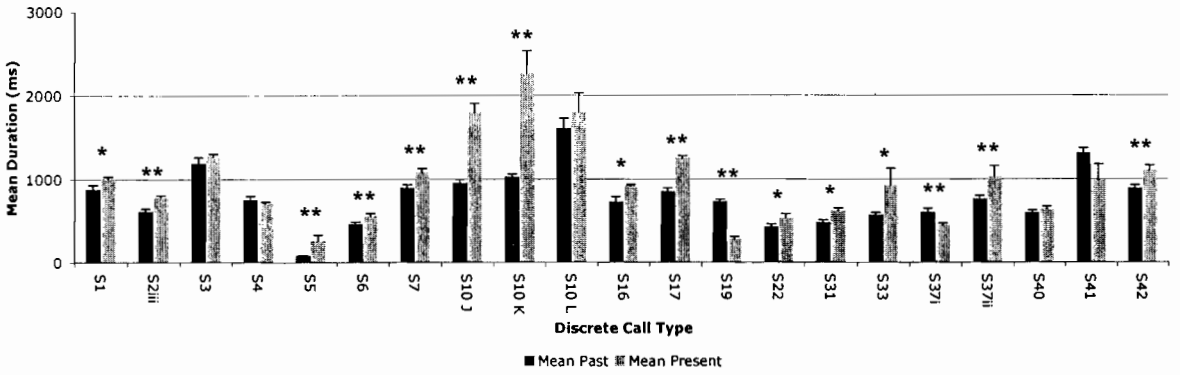



**Figure 11: Comparison of mean call durations**

Mean durations for call types in the 1978-1983 time period (dark green) compared to those from the 2005-2006 time period (light green). Durations for call types in the 1978-1983 time period were taken from Ford 1987. Durations for the 2005-2006 time period were measured in Raven. All measurements are in milliseconds. Each call type was only tested for the pod that produced it most frequently with the exception of S10 which was tested for all three pods. Significance was determined via a t-test. * indicates the results are significant at the $p < 0.05$ level. ** indicates the results were significant at the $p < 0.0001$ level. Bars indicate standard error.

Increasing call duration is one method of overcoming background noise interference. Humpback whales increase the duration of their songs in the presence of LFA sonar playbacks (Miller et al. 2000). Similarly, beluga whales have been shown to alter the frequency of their calls in response to engine noise interference (Lesage et al. 1999), whereas bottlenose dolphins whistle more frequently in the presence of vessels (Buckstaff 2004). Boat engine noise causes broadband interference. It has been demonstrated that underwater noise from boats can mask killer whale calls at distances up to 14 kilometers (Erbe 2002).

The finding of increased discrete call durations in my study complements the results of a previous study. Foote et al. (2004) found an increase in duration for the main call type of each pod in the presence of boats in 2001-2003 as compared to the absence of boats in 2001-2003 or either condition in 1989-1992 and 1977-1981. The researchers point out that the average number of commercial whale-watching vessels with the Southern Resident killer whales in the summer months increased five fold between 1990 and 2000, perhaps crossing a disturbance threshold in terms of underwater engine noise and leading to the increased length of discrete calls. The results found here of a broad increase in duration across many call types provided strong evidence for a biologically significant increase in underwater noise.

Due to the impacts of vessel noise on the orcas, there is one current Be Whale Wise guideline that I strongly disagree with. Under the current guidelines, if a vessel is parked outside the path of the whales and the whales change direction, it is recommended that the vessel start its engine and move out of the path of the whales. As a Soundwatch volunteer, I disagreed with writing up commercial whale watch vessels for not following this guideline. In my opinion, it would be much better for the whales if the vessel remained off or in idle rather than repositioning and adding more acoustic noise to the underwater environment. Vessels should be allowed to be within 100 yards of the whales if the whales approach the vessel.

Thank you for allowing public input on the regulations you are developing. I look forward to seeing the results.

Sincerely,
Monika Wieland


Buckstaff, Kara C. (2004), "Effects of Watercraft Noise on the Acoustic Behavior of Bottlenose Dolphins, *Tursiops truncatus*, in Saratosa Bay, Florida", *Marine Mammal Science*, 20 (4):709-725.

Erbe, C. (2002), "Underwater noise of whale-watching boats and potential effects on killer whales (Orcinus orca), based on an acoustic impact model", *Marine Mammal Science*, 18 (2):394-418.

Foote, Andrew D., Richard W. Osborne, and A. Rus Hoelzel (2004), "Whale-call response to masking boat noise", *Nature*, 428:910.

Lesage, V., et al. (1999), "The effect of vessel noise on the vocal behavior of Belugas in the St. Lawrence River estuary, Canada", *Marine Mammal Science*, 15 (1):65-84.

Miller, Patrick J. O., et al. (2000), "Whale songs lengthen in response to sonar", *Nature*, 405:903.

**Subject:** Fw: Effects of various vessel activities - Comment Period
**From:** Lifeforce Foundation <lifeforcesociety@hotmail.com>
**Date:** Sun, 03 Jun 2007 14:00:37 -0700
**To:** Orca.Plan@noaa.gov

----- Original Message -----
**From:** Lifeforce Foundation
**To:** Lifeforce Foundation
**Sent:** Sunday, June 03, 2007 12:46 PM
**Subject:** Effects of various vessel activities - Comment Period

**June 3, 2007**

**To: National Marine Fisheries Service**
**From: Peter Hamilton, Lifeforce Founder**
**Re: NOAA Fisheries Service public comment period on potential regulations to protect killer whales in Washington State from the effects of various vessel activities.**

**General Position**
I have studied the behaviour and travel patterns of the Southern Community for 13 years. Some of my work was conducted under a DFO research permit. My recommendations and the information about haphazard, dangerous boat traffic is based upon hundred of hours that I have spent with these endangered orcas and the pursuing vessels.
In general, the present situation regarding whale watch companies and pleasure boaters is appalling. The boats continually pursue orcas from sunrise to sunset. Monitoring activities and guidelines have not relieved the pressure on the orcas. If monitors are not present the situation is even worse with the commercial vessels in flagrant violation of guidelines.
It is time for a totally new approach to incorporate whale watch regulations, training (companies and monitors), licensing of whale watch operators, better education programs, "No Whale Watch Zones", time limits for commercial boats, "Time Outs and Orca Days Off", more enforcement and other recommendations as outlined in our attachments.

**Orca Days Off/Time Outs**
As we know, stress affects the immune system and in highly contaminated orcas this would make them more susceptible to health problems and even death. The increase of commercial, pleasure and research boats also exposes these orcas to accidents such as boat collisions that can be life altering and fatal.
In order to relieve some of the ongoing stress and exposure to vessel impacts created by boat traffic I recommend "Time Out Periods" of two hours at noon and 5PM each day. Companies can time their tour times to meet this requirement.
For further relief, I recommend "Orca Days Off". When the orcas are in local waters and have been pursued for 1 day the 2nd day shall be a "Day Off" in which no commercial activity is allowed. Operators can choose from a variety of other wildlife adventures for that day.

**Attachments**
The attachments outline our positions in more details and, while there should be some refinements, the general principles would still apply.
Please include the following attachments in the public record regarding the impact of vessel activities on orcas. The information includes:

1. **Model Whale Watch**
   Proposed Lifeforce recommendations that would create a new commercial whale watching system. This would include time restricted Whale Watch Zones and No Whale Watch Zones.
2. **Monitoring Issues in BC/WA**
   Organizations that conduct a meritable job to monitor boat have also been part of the problems when they have not been properly trained. This would include driving into orcas when not familiar with orca behaviour/positions.
3. **Public perception**
   The aquarium shows that promote petting and/or touching dolphins instils a speciesist attitude that could lead to problems with wild orcas if these people have access to boats. For example, I have stopped people from trying to swim with the Southern Community.
   Also, Whale Watch Companies are still continuously blocking pathways and pleasure boaters think that this is permitted behaviour.
4. **Boat Harassment Photos**
   The photographs depict both commercial and pleasure boaters in violation of the guidelines. Some of the most disturbing harassment was a Board Member of the Whale Watch Operators Association.
5. **Studying Them To Death**
   Since the designation of orcas as being endangered there has been an increase of research boats harassing the orcas. Prey studies and focal follows usually results in the researchers being on top of the orcas and well within the 100-meter boundary. This certainly interrupts the lifefestyles and poses a threat to their health. In addition, pleasure boaters who observe this negative behaviour will try to copy it. When I had my Canadian Research Permit it was stipulated that there should not be any close approaches when other boats are presents.
6. **OrcaTrails**
   Land-based whale watching should be promoted. As part of Lifeforce's Orca Trails program we can advise marine park wardens of the approximate time(s) that orcas are expected to pass their park. As a result of my studies I am to predict the estimated times. This helps reduce boat traffic.

**My contact information is:**

Peter Hamilton
Founding Director
Lifeforce Foundation
Box 3117
Vancouver, BC V6B 3X6
604-649-5258 or lifeforcesociety@hotmail.com
www.lifeforcefoundation.org

**ModelWhaleWatchPlan.pdf** **Content-Type:** application/pdf
**Content-Encoding:** base64

**MonitoringIssuesFinal.pdf** **Content-Type:** application/pdf
**Content-Encoding:** base64

**Boat Traffic Harrasment.pdf**
**Content-Type:** application/pdf
**Content-Encoding:** base64

**ORCAS TREATED LIKE LAB ANIMALS.doc**
**Content-Type:** application/msword
**Content-Encoding:** base64

# ORCAS TREATED LIKE LAB ANIMALS

Now that orcas on the West Coast of BC and WA have been declared an endangered species there are numerous researchers who are on the water harassing the orcas. To date, whale protection groups are not speaking out. Lifeforce was alone in the 90s when we opposed darting orcas for skin biopsies and seismic testing with air guns - noise that could harm orcas. So far, we have been alone in our battle to stop those who treat marine wildlife as if they were laboratory animals.

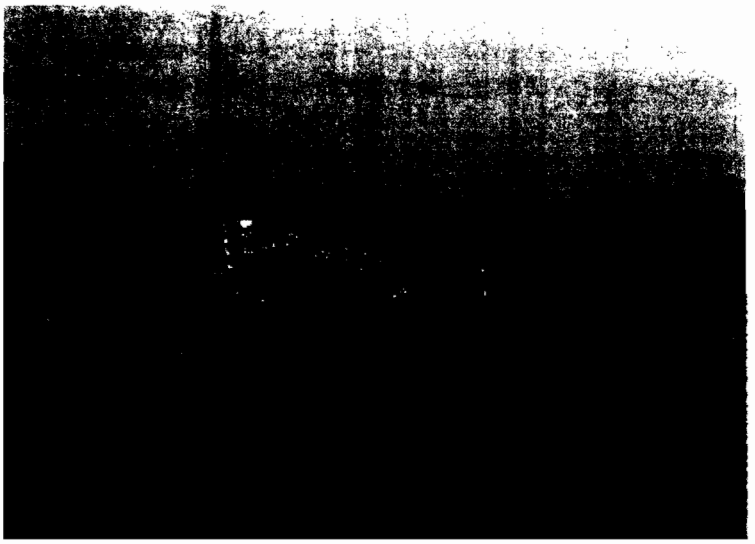
Instead of providing funds for immediate, practical solutions (such as boat traffic monitoring/education, land-based "Orca Trails" whale watching and oil spill prevention) funds are being spent on frivolous, unnecessary experiments. In one study to collect fish scales the orcas are continuously followed and even pursued when they are not foraging. We already know that orcas eat fish and that dwindling fish stocks must be protected for all.

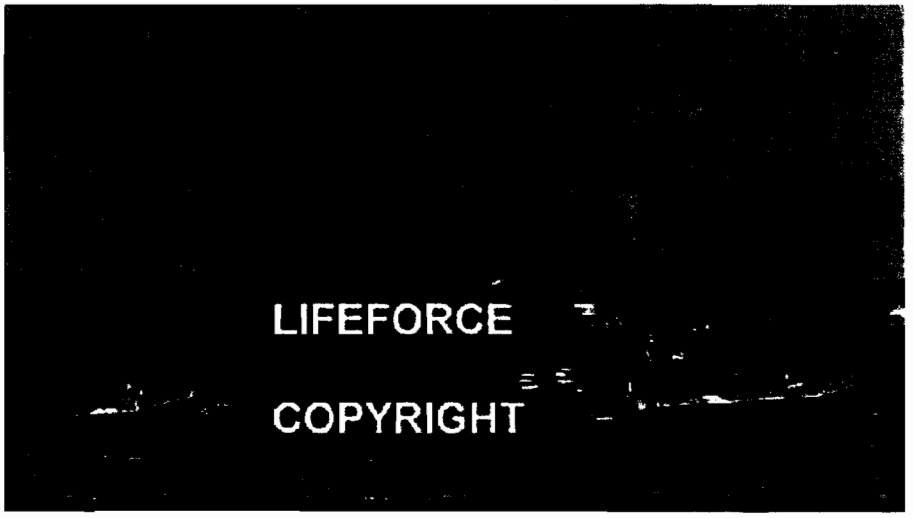
These "Focal follows" can be fatal. Boat traffic is recognized as a major threat to orcas. As recent as August 2003, orca A60 was wounded by a propeller. Presently, there are far too many boats pursuing orcas all day long so we don't want new research boat traffic. Boats can interrupt the lifestyles of orcas, cause psychological stress, affect immune systems making them more susceptible to illnesses and cause physical injuries.

While on the water documenting the experiments Lifeforce was told that all the experiments are authorized with scientific permits. Well, the unjust atrocities sanctioned in vivisection laboratories are also approved in a peer review system that provides little, if any, protection for the animal victims. We must not allow the oceans to be turned into vivisection laboratories and marine wildlife treated as laboratory animals

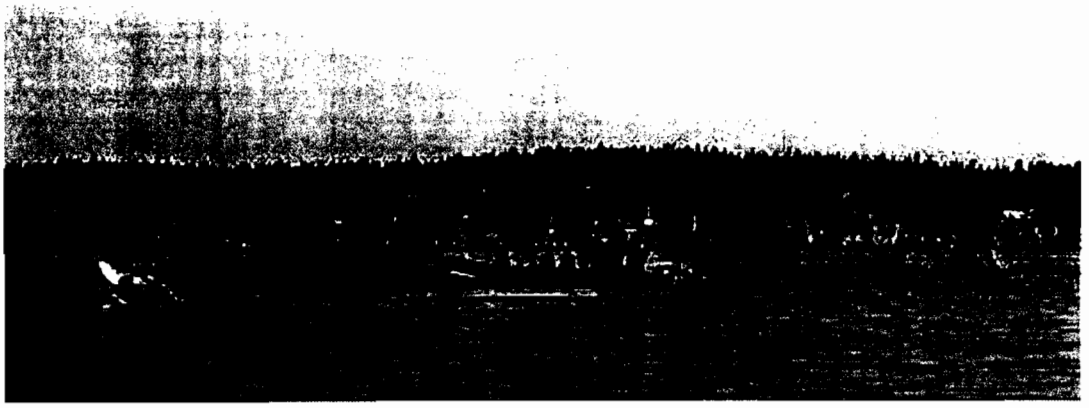
Ed Note: Sounds produced by navies are dangerous to marine mammals (the U.S. Navy has admitted its own sonar was most likely responsible for the death of several whales in the Bahamas). The U.S. Navy funds a major part of marine mammal science (sponsoring 70% of all marine mammal research in the U.S., and 50% of marine mammal research worldwide). The research is for military purposes and does not protect animal rights.

# Boats Harassing Orcas

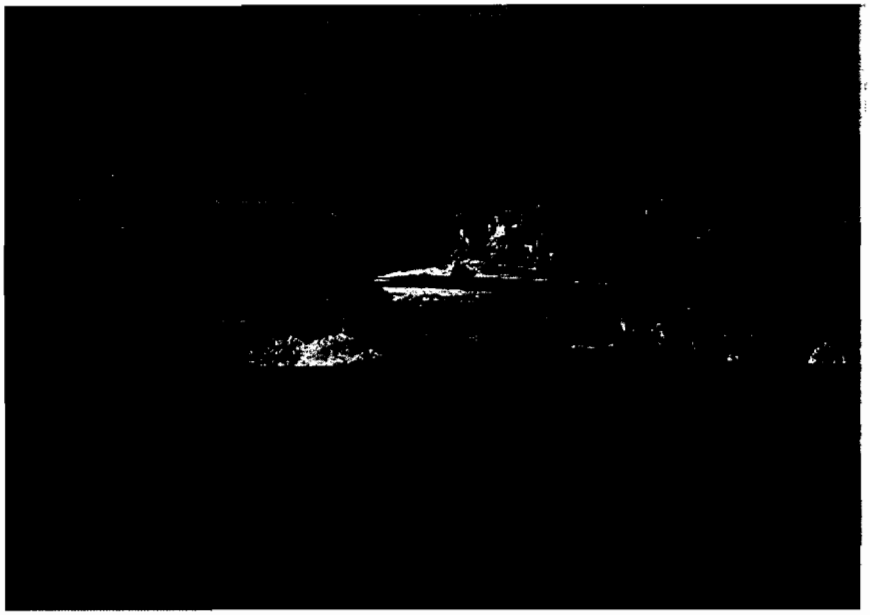




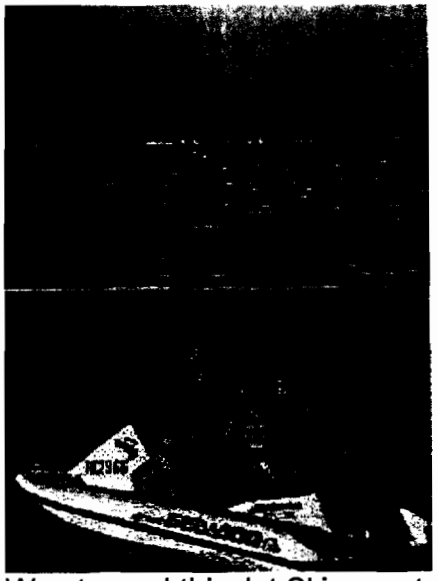

Whale Watch companies repeatedly block the pathway of orcas. This causes stress and interrupts their lifestyles. The loud engines noises make it harder for them to communicate. Stress affects the immune system and makes them more susceptible to health problems.



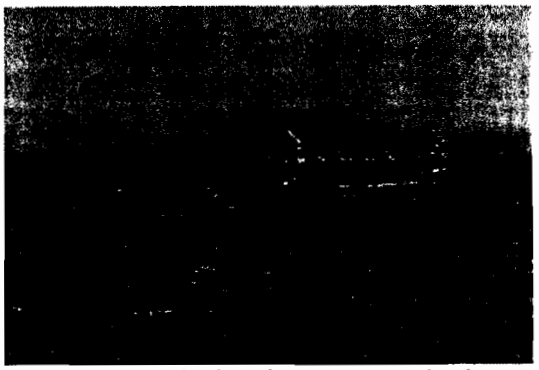
The operator of this Whale Watch boat is a Board Member of an association of whale watchers. He is driving over orcas, operating in the middle of a group of orcas and blocking their pathway.



Pleasure boaters are often unaware of Whale Watch Guidelines or they copy Whale Watch Companies that are not following the rules.



We stopped this Jet Ski operator who was driving above orcas and circling them. Lifeforce reported him to the Canadian Coast Guard.



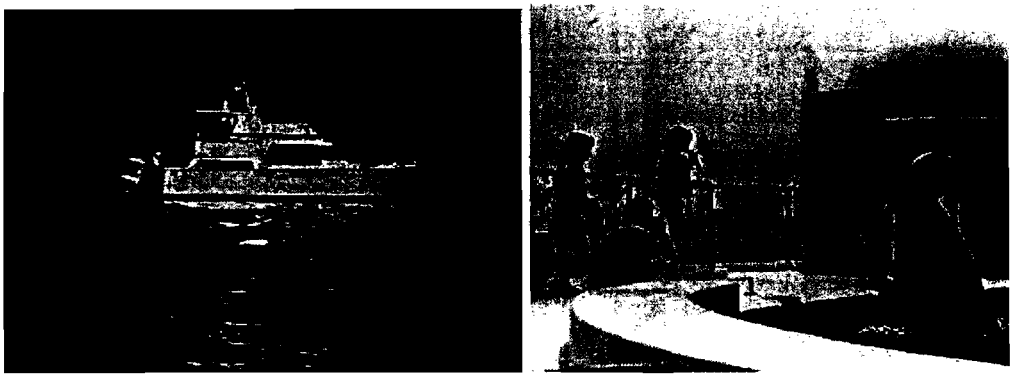
Now that we helped get orcas designated as an endangered species there has been an increase of funding to protect them. However, researchers are getting a lot if this money and this has created a problem with research boat traffic.
The boat above is constantly on top of the orcas to collect fish prey samples to prove what orcas eat. But we know that "resident" orcas eat fish and we must have moratoriums on fishing to rebuild fish stocks.
Other experiment involves shooting skin biopsy darts into the orcas. The orcas react with fear – their dorsal fins have been seen shaking.

We must not study them to death.

Lifeforce is urging US and Canadian to implement Whale Watching Regulations. There must be NO Whale Watch areas so the orcas are not pursued continuously every day (peak of season is May to October).
We are also opposing experiments that contribute to the boat traffic problem and harrasment.

Please download our Orca Field Guide off our web site
www.lifeforcefoundation.org for photos of orcas in the wild.

# "Monitoring Issues in BC and WA: Friendly Persuasion and Aquarium Pets?"



Monitoring organizations debate approaches to educating boaters about responsible whale watching methods.
Aquariums continue to promote kissing, petting and swimming with dolphins. This "get up close with nature" marketing ploy can harm people and wildlife.

**By Peter Hamilton. Lifeforce Foundation**

Presented at Viewing Marine Mammals in the Wild: Emerging Issues, Research and Management Needs" Workshop, 15th Biennial Conference on the Biology of Marine Mammals from December 14-19, 2003

# "Monitoring Issues in BC and WA: Friendly Persuasion and Aquarium Pets?"

By Peter Hamilton. Lifeforce Foundation

***Abstract:*** *As we all seek the best management approaches to ecotourism and recreational activities the Lifeforce Foundation raises the questions "Should education programs include friendly persuasion to reduce harmful boat traffic?" and "Are the captive dolphin programs instilling speciesist attitudes towards dolphins in the wild?"*

**History - Lifewatch Boater Awareness Program**

Lifeforce has been conducting Marine Life Programs for over 10 years. Our Lifewatch Boater Awareness Program is a stewardship program providing information about Whale Watching Guidelines and Regulations to boaters on the water and through marinas. We also target specific users groups taking boater-training courses. The Lifewatch program is being conducted in the Vancouver, BC and Pt. Roberts, WA areas.

We also have a Marine Wildlife Hotline and a Marine Wildlife Rescue service. These are free services for the public to report injuries, stranding and harassment (604-NOW HOPE (669-4673).

The main goals of the Lifeforce projects include developing Marine Mammal Protection Regulations, implementing an Orca Recovery Program and the creation of Marine Protected Areas. We are seeking volunteers to assist in conducting the Marine Life Programs in the Vancouver, BC area from April 2004 to November 2004. We are collecting data on on-going research projects with the goal of publishing papers such as "Behaviour and Travel Patterns of the Southern Orca Community" and "Orca and Boat Interactions".

The Lifewatch information advises pleasure and commercial boaters, jet skiers, pilots and others how to safely watch marine life. Lifewatch will actively intercept boaters who inadvertently or intentionally harass marine mammals.

Lifewatch helps protect many species of marine wildlife while our main objective is to protect an endangered population of orcas known as the Southern Community. Threats to the Southern Community, such as dwindling food sources, environmental pollution and the impact of aquarium captures, cannot be resolved immediately but we can immediately reduce some of the threats through our education program. By monitoring the boat traffic we can immediately reduce noise pollution/boat traffic that interrupts foraging patterns and causes stress that affects the immune systems. We can also stop or reduce collisions that could injure and kill orcas.

The continued boat traffic following the orcas within close proximity constitutes harassment. Monitoring, education, enforcement of guidelines and implementing strong regulations are essential for their survival.

**Monitoring Protocols**

Lifewatch is helping to coordinate monitoring programs through the development of a standard Marine Wildlife Monitoring and Enforcement Policy. Monitoring the monitors would help avoid public confusion about guidelines and gain public support of monitoring programs. This will help strengthen working relationships between all marine watch groups while working towards more effective monitoring operations.

Lifeforce has held the first meeting with monitoring organizations in BC. At this meeting we discussed whether the goal of Monitoring Standards would be:

a) To coordinate activities between present and future organizations
b) To organize a Monitoring System to be part of an Orca Recovery Plan
c) To organize a Monitoring System to provide data for the development of Marine Protected Areas, Marine Mammal Regulations and any impacts on marine habitats.
d) To be prepared to educate the public about new Marine Mammal Regulations.
d) To look at the need for a Monitoring Association which could include both marine and terrestrial monitoring groups.

These operating procedures could apply to individuals, organizations and government agencies that enforce guidelines and regulations regarding the protection of marine mammals and marine ecosystems. We hope to assist those efforts by providing information from basic "Introductions" to "How to Respond to Boaters in Violations of Guidelines". We are suggesting that Monitoring organizations should be giving a consistent message to boaters in order to avoid confusion and to gain the cooperation of pleasure and commercial boaters. The policy manual would also be a valuable tool in training volunteers and/or staff.

Monitoring activities will be an essential part of future Orca Recovery Plans. The data collected during monitoring could contribute to our knowledge of various species. Their travel/behaviour patterns will contribute to the development of Marine Protected Areas.

Lifeforce is seeking input from those who presently have written policies that have been developed to address such boat traffic interactions with marine wildlife. We would also like to hear from those monitoring organizations addressing pollution issues (such as "Baywatch" programs) and the methods that they employ if and when approaching boaters/companies.

**Whale Watching Regulations**

We have urged governments to designate some orca populations as endangered. The Canadian government has listed the Southern Orca Community as endangered while the US government listed them as depleted.

The present Whale Watch Guidelines are voluntary guidelines. There is growing support for legislation and/or regulations because there has been a substantial increase in the number of boats in the whale watching industry. In many cases the industry does not adhere to volunteer guidelines. Licensing of ecotourism marine operations may also be necessary. An "Ethical Eco-tourism Certificate Program" with training courses could also

be implemented. For example, boats would receive a one-year "Whale of Approval" sticker.

Lifeforce is working with other organizations to standardize data collection that would support implementing the above improvements.

The Canadian Department of Fisheries and Oceans (DFO) should be fully supported for their efforts to implement strong regulations. They are protecting whales for present and future generations to be able to appreciate and enjoy. In 2003,Lifeforce submitted our "Marine Mammal Regulatory Amendments and Management Plans", which included operating policies, to DFO.

**Monitoring and MPAs to assist in conserving key habitat for species at risk**

Lifewatch studies and data collection will help provide information in support of conserving habitat for species at risk. Data about species distribution and behaviour must be obtained in order to create Marine Protected Areas (MPAs). The data will also help define Best Management Practises and help local decision makers with regard to creating marine sanctuaries.

We will work with Parks Canada, which is conducting feasibility studies regarding the recently announced Southern Gulf Islands National Park and National Marine Conservation Areas. Our experiences will aid in determining which "protected core areas" should include No Whale Watch Zones as well as intermediate zones where public access could coexist with efforts to protect marine ecosystems. One solution that we will study is the mooring of boats for trail access to wildlife observation stations in MPAs as part of programs such as Orca Trails (see Alternative to Water Based Activities for details).

Lifewatch considers that critical habitats, such as the Fraser River estuary area, could be incorporated into Recovery Plans as conservation zones in harmony with other business and recreational activities.

One major area of concern is Active Pass in British Columbia. Boats run over the orcas, block their paths and drive them against the shore. Collecting data will help designate these areas as No Whale Watch Zones for boaters and will change habitat uses.

**Lifewatch Methodology**

In 2003, a new, faster boat has allowed us to expand our capabilities. We can travel farther and extend our monitoring times. We would also be able to assist other monitors in other territories and to communicate with them with radio scramblers for confidential plans.

The Lifewatch program is developing new, innovative techniques to address the problems:

a) We are using an arrow bar (usually seen at road construction sites) with directional lights to stop and redirect boaters who are approaching orcas.
b) We are designing a remote data collection system, which attaches to the radar mast above the cabin in order to provide an elevated, unrestricted viewing platform for filming/recording data.
c) We will be using a laser range finder and speed indicator to accurately determine the distances between boats and wildlife.

**Educational Approaches**

As we all seek the best management approaches to promote eco friendly tourism and recreational activities, we must evaluate and refine our educational and enforcement policies. Through our experiences we have found that the soft approaches alone has not eliminated violations of whale watch guidelines by businesses. We have found that a "pleasant, but firm approach" is needed. In addition, we must look at the "Get Up Close with Nature" aquarium/zoo industry messages and at how to stop this negative impact on wild populations.

Lifeforce would like to raise two questions and respond to them with some historical information:

***"Should education programs include friendly persuasion to reduce harmful boat traffic?"***

The Lifewatch education programs inform communities as to how their lifestyles could affect marine systems and how to avoid any negative impact on orcas and other marine life. Lifewatch raises public awareness of problems facing marine wildlife and habitats and how they can participate in becoming marine stewards in their community.

It is certainly the main goal of volunteer monitoring organizations to provide education - not enforcement. However we do, in fact, find ourselves as part of the enforcement process either by documenting the violations or reporting violations to the proper authorities. We are often faced with the moral dilemma "Do we stand by while parties harass whales or do we intervene?" This is even more troublesome in areas where enforcement agencies may not have the funding for an immediate response or for following up with legal action. Monitors who are on the front line understand that our education work includes enforcement because advising boaters could stop harassment.

**Whale Watch Businesses**

Sometimes monitors may have to give strong messages because the friendly messages are ignored and do not stop future violations. Lifeforce had hoped that the whale watch businesses would act responsibly and that they would help protect endangered species such as the Southern Orca Community. However, many of the companies do not adhere to the guidelines and this frequently results in harassment of marine wildlife.

In our area this is very evident in locations when monitoring activity is low or non-existent. On the US side, in the San Juan Islands, there are more eyes on boat traffic and more restrictions such as no approaches within ¼ mile of designated shorelines. On the Canadian side, in the Gulf Islands and Southern Georgia Strait, there is less monitoring since Lifewatch operates on a very low budget. Whale Watch Operators have referred to our territory as a "no man's land" and wrongly tell each other that a "different set of rules" applies.

One example, are the problems with boaters harassing orcas in Active Pass, BC. Our advice to an association of whale watch operators to stop and watch the orcas enter this crowded pass was not implemented. They continue to enter the pass to engage the orcas and violate the guidelines.

In addition, when the orcas are spread out, whale watch companies will either go to pods farthest away from us or split up in order to avoid being monitored.

**Pleasure Boaters**

The pleasure boat operators usually will adhere to guidelines when advised, but there must be an increase in education programs to advise these non-commercial boaters.

Lifewatch has found that when whale watch boats and research vessels are approaching too close, the pleasure boats copy. They are confused. They think that the whale watch operators know what to do and are following the rules so they irritate the often inappropriate actions.

**Documented Violations 2003**

In addition to our work on the water, we also collect data from land bases when the orcas and boats were near the shoreline. Lifewatch was able to record several harassment problems. We contacted commercial whale watching boats by VHF radio and pleasure boaters by either VHF radio or by locating their home marina.

Lifeforce videotaped approximately 128 minutes of boat behaviour that had a negative impact on the orcas. We also collected 72 photographs of violations of whale watch guidelines and have additional written records of approximately 36 boats. We will also be able to get high quality still photos from the videotapes.

In addition, Lifeforce collected approximately 43 minutes of the behaviour of a solitary dolphin – a False killer whale. We also photographed new behaviours and can get still images from the videotapes. New behaviours included a drastic reduction in time spent following boats.

**So what methods work?**

Even with all the pleasant talk between operators and the monitoring people, violations of the guidelines continue. Some operators think that getting written "citations" mailed to them is a "joke" and it may not change their bad boating behaviour. What appears to be a better working relationship may be only a public relations move by the whale watch industry in order to be perceived as cooperating. It is agreed among monitoring groups that many operators do operate differently when they are not being watched - so are they really operating in good faith?

Lifeforce has told the Whale Watch Operators Association Northwest that if they fail to follow guidelines then Lifewatch will approach their vessel(s) to advise their customers of the violation(s). Over the years, this has resulted in better boating practises in the Lifewatch patrolled area.

***"Are the captive dolphin programs instilling speciesist attitudes towards dolphins in the wild?'***

Pleasure boaters can also pose other threats to species at risk. Public perception has been influenced by the Aquarium Industry who treats their captives like pets who they ride, swim with and hand feed. If the public is going to aquariums and getting up close with cetaceans it is highly likely that they will try to get too close to dolphins in the wild. Lifewatch has had to stop boaters from attempting to swim with the wild orcas.

Captive dolphin programs should advise people that these creatures are wild animals and regulations, in some countries such as the US, stipulate that it is illegal to swim, touch and feed marine wildlife.

**Lone Dolphins**

Another problem is with lone dolphins, such as a False Killer whale that follows boats near Vancouver. Boaters have to be told that the behaviour of these isolated dolphins is totally different and they must not approach any marine wildlife.

The public perception of lone orcas (Luna and Springer) separated from their families appears that they think the orcas are having fun playing with boats and people. This has especially been the case on the West Coast with the orca named Luna. The public must be properly informed that these behaviours are those that he would be doing with other orcas. Lone dolphins will use inanimate objects such as boats as substitutes.

**Alternative to Water Based Activities**

**Orca Trails – An Action Plan to prevent increase in boat activity**

Lifeforce has operated under a Canadian Department of Fisheries and Oceans Research permit to study the behavior and travel patterns of the Southern Orca Community. As a result of our 10-year study, we are presently developing an Orca Trails Program to promote land-based whale watching by advising park managers when orcas will pass by their marine parks. The park managers and public can also call us for information so they can plan hikes, camping trips and other types of outdoor recreation.

This will help protect marine ecosystems by promoting ecologically friendly outdoor lifestyles for landlubbers and boaters. Orca Trails provides an equal opportunity for whale watching to all as not everyone can afford water-based whale watching.

As part of this education program we helped design and print a Whale Watch postcard depicting one of the present Orca Trails locations in Lighthouse Marine Park, Point Roberts, WA. Other sites are being developed in Southern BC and WA.

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For further information and discussion we can be contacted at lifeforcesociety@hotmail.com or Lifeforce, Box 3117, Vancouver, British Columbia, Canada V6B 3X6 (604) 669-4673

DRAFT
DISCUSSION PAPER

# Boat Traffic Threats to Southern Resident Killer Whales (*Orcinus orca*): A Model Whale Watching Plan for Endangered Orcas

©Lifeforce/Peter Hamilton

**February 2005**
**Lifeforce Foundation**
**lifeforcesociety@hotmail.com**

## Contents

## Introduction:
## Boat Traffic Threats to Southern Resident Killer Whales (*Orcinus orca*):
## A Model Whale Watching Plan for Endangered Orcas

**Boat Traffic Threats**

Whale watching can be a peaceful experience but presently it a threat to the Southern Community. The J, K and L pods in this community are designated as an endangered species. Many boaters are unaware of "Whale Watching" guidelines. Lifeforce distributes the guidelines to boaters on the water and to the general public. The information advises pleasure boaters, commercial boaters, jet skiers and seaplane operators how to safely watch whales and other marine life. Lifeforce helps stop boaters who inadvertently or intentionally harass marine mammals.

Threats to the Southern Community such as dwindling food sources and environmental pollution will not be resolved immediately but we can immediately reduce some of the threats through enforceable boating regulations. By controlling the boat traffic we can immediately reduce noise pollution/boat traffic that interrupt foraging patterns and cause stress that affects the immune systems. We can also stop/reduce boat collisions that could injure and kill orcas.

A major change in boat-based whale watching is essential for the survival of orcas. There is an urgent need for strong regulatory measures to ensure it. This population is extremely vulnerable to human and environmental threats.

**A Model Plan: Whale Watch Zones**

Guidelines and regulations regarding whale watching activities worldwide have been reviewed and outlined in our recommendations for Marine Mammal Regulations, 2004 (Appendix I). The best rules that are applicable to whale watching on the BC/WA West Coast can be used to form a model plan for ecotourism businesses to watch orcas and other wildlife.

This discussion paper looks at changing the face of present whale watching activities. It would replace the haphazard, prolonged presence of commercial boats with organized Whale Watching Zones and No Whale Watching Zones in the present high traffic areas. This would, in turn, reduce many of the copycat behaviours by pleasure boaters who mimic improper boat operations by the whale watch companies.

**Whale Watch Zones: Water and Land**

**On the Water**

The travel patterns of the Southern Community are very predictable and would support the creation of designated water zones for whale watching. These Whale Watch Zones would be marked by GPS and land coordinates. The zones would be approximately 2 miles apart. Commercial boats would wait within the zone for the orcas. The number of boats would be limited and the number of zone visits restricted.

**On Land**

The plan that would also incorporate land-based whale watching through Lifeforce's Orca Trails program.

**No Whale Watch Zones**

No Whale Watch Zones must designated in all areas where regulations cannot be adhered to and in high boat traffic areas where navigation cannot be conducted in a safe manner. These areas should also provide sanctuaries for orcas to be able to have a break from continuous whale watching activity. No Whale Watch Zones would prohibit both commercial and pleasure craft.

**Conclusion**

This model would also incorporate **Ethical Eco Tourism Standards** by training and licensing operators. The implications of keeping dolphins in swim-with and petting programs should also address any impact on watching dolphins in the wild (see "Monitoring Issues in BC and WA: Friendly Persuasion and Aquarium Pets?", Appendix III)

Lifeforce hopes to work with others to develop this model. Lifeforce has been monitoring this problem for 12 years in order to form this basis for discussion. Further work will help refine this model plan that could be used by ecotourism businesses operations throughout the world.

## Training and Licensing

**Boat Operators**
Whale Watch Companies and other related ecotourism businesses (including companies using aircraft) must pass a compulsory written test in order to receive an annual License/Permit to Operate. Inspections will determine if they are in violation of permits and are subject to suspension or cancellation.

**Boat Nature Interpreters**
All staff must be trained. Training should include safe boating competency testing and knowledge of marine wildlife behavior. Educational material should include materials such as Lifeforce's Orca Field Guide.

## Eco Certification
Whale Watch Companies will display an Ethical Certificate of Operation. This seal of approval would appropriately be a "Whale of Approval"

## Whale Watch Zones
The creation of designated water zones for commercial whale watching would be marked by GPS and land coordinates. The zones would be approximately 2 miles apart. The zones would be ¼ mile off shore. Commercial boats would wait within the zone for the orcas.

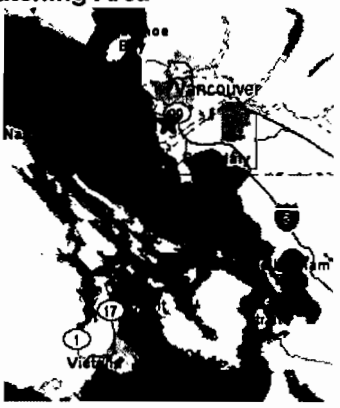
The following is a list of possible Whale Watch Zones. Numbers 1 to 19 are the same as the Operators' List that they use to give locations of orcas to each other. The others are locations recommendations by Lifeforce for areas not presently on the companies' lists.

**Operators' Location List (A selected number of locations would be allowed)**
**Haro Strait to Rosario Strait - Maps 2 and 3b**
1 – East Point
2 – Monarch Head
3 – Blunden Island
4 – Mouat Point
5 – Active Pass (south Entrance)
6 – Turn point
7 – Kellet Bluff
8 – Kelp Reef
9 – Lime Kiln Lighthouse
10 – False Bay
11 – Eagle Point
12 – Salmon Bank
13 – Iceberg Point
14 – Colville Island
15 – Bird Rocks
16 – Strawberry Island
17 – Lawrence Point
18 – Village Point
19 – Turn Island
**Other Lifeforce recommended locations**
**Haro Strait to Rosario Strait – Map 3a**
20 - Patos island to Rosario
21 - Alden Bank
22 - Lummi Island
23 - Birch Bay

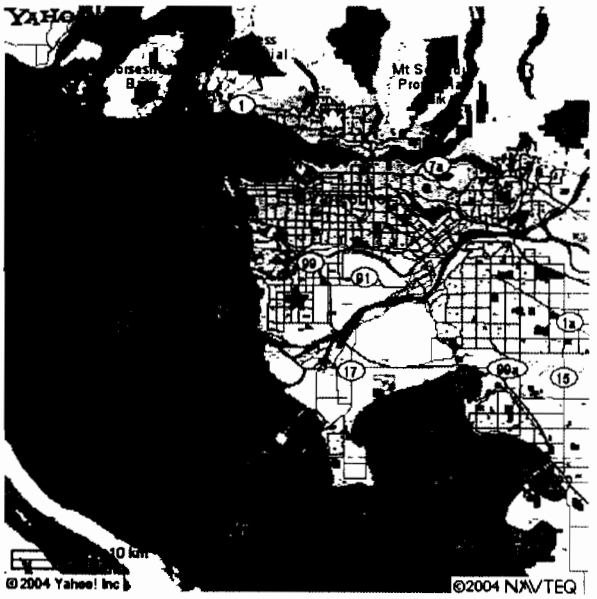
**Georgia Strait/Vancouver Area – Map 2**
24 - Boundary Bay
25 - Coal Port/Sturgeon Banks
26 - Mid Georgia Strait
27 - South Arm Fraser River
28 – Iona Jetty
29 - North Arm Fraser River
30 – Bowen Island
31 - Porier Pass

**Victoria/Sooke Area – Map 4**
32 – Trail Island
33 – Discovery Island
34 – To be discussed
35 – To be discussed
36 – Race Rocks (or No Whale Watch Zone)
37 – To be discussed

**Map 1 – Southern Community Whale Watching Area**




**WHALE WATCH ZONES**
**Map 2 – Georgia Strait/Vancouver Area**



**WHALE WATCH ZONES**
**Maps 3a and b – Haro Strait to Rosario Strait**

**WHALE WATCH ZONES**
**Map 4 – Victoria/Sooke**


## Approaching Whale Watch Zones

Operators should not be within 2 miles of any orca activity. To further reduce boat traffic congestion travel to zones must be taken utilizing routes not in view of whale watch activities and not taken by the orcas. All operators must allow enough time to reach and/or proceed to a designated zone(s).

## Time Limits

Commercial and recreational vessels must be restricted by both number of boats and time allowed on scene. When they are waiting in designated zones the time could vary depending on the arrival of the boat followed by the orcas.

During any unexpected chance meeting, the maximum time for being in the presence of orcas should be 30 minutes.

In addition, when pleasure boats are present commercial vessels must stand down until the pleasure craft can be advised of this safe boat operating procedures. They would be advised by organizations conducting monitoring activities.

## Number of Boats

The maximum number of commercial whale watch boats in any Whale Watch Zone shall be 10 vessels. It may be less if boats will be within the allowed proximity of the orcas. When this number is reached then other boats shall proceed to the next Whale Watch Zone.

Since pleasure craft operators may follow commercial operators the number may exceed the commercial quota as long as the boats do not impede the movement of orcas and/or violate any rules.

## Maximum Number of Zones per Trip

The maximum number of zones attended by any one company shall be two zones for each trip.

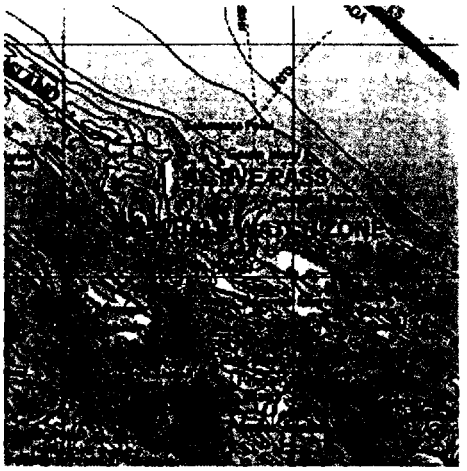
## Maximum Number of Boat Trips per Day

The maximum number of boat trips per day per boat shall be two.

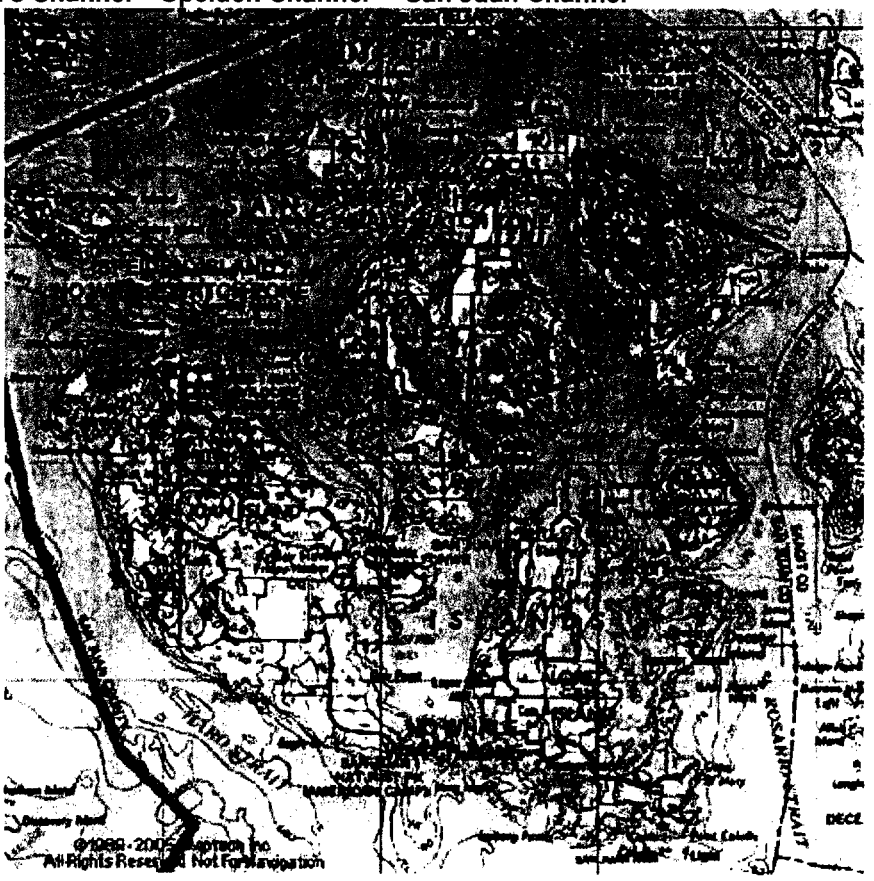
## No Whale Watch Zones

No Whale Watch Zones must be created in all areas where regulations cannot be adhered to and in high boat traffic areas where navigation cannot be conducted in a safe manner. These locations should also provide sanctuaries for orcas to be able to have a break from continuous whale watching activity.
The areas would include in Canada - Active Pass (Map 5) and in the US - President's Channel area; Speiden Channel area; and Southern San Juan Channel area (Map 6).
No Whale Watch Zones would prohibit both commercial and pleasure craft.

**NO WHALE WATCH ZONES**
**Map 5 – Active Pass**



**NO WHALE WATCH ZONES**
**Map 6 – President's Channel – Speiden Channel – San Juan Channel**



## Marine Wildlife Monitoring

Marine Mammal Monitoring Standards and Enforcement Policy, such as those being developed by Lifeforce, should be used for training and operation standards for organizations that are monitoring boater's adherence to present guidelines and future regulations.
**(See Model Monitoring Standards - Appendix IV)**

## Company Logs

All companies must provide Weekly Marine Wildlife Reports when requested by authorized agencies. This would include information from the number of trips to species encountered.

## Violations

All violations by commercial and pleasure boaters shall be reported by whale watch companies and others immediately to appropriate authorities.

## Land-based Whale Watching: Orca Trails

A land-based Orca Trails Program should be developed. Lifeforce is conducting a project called Orca Trails Whale Watching. This is a unique education program to promote land based whale watching in BC and Washington State. We hope that this will help manage potential increases in boat activity.
Orca Trails is a result of our twelve-year study of orcas. We can advise park managers and the public when the orcas will pass by certain park areas. The public can call us for information about land-based whale watch areas so they can plan hikes, camping trips and other types of outdoor recreation. Lifewatch will help protect marine ecosystems and the orcas by promoting ecologically friendly outdoor lifestyles for land lovers and boaters.
As part of this program we will also look at the possibility of using boats to take people to the parks. Any such boat traffic would not come into contact with the orcas. Marine Parks could incorporate drop off points and various types of tourism related businesses and park programs could be developed.
In marine parks any existing moorage could be utilized for the combined nature hikes and orca watching – non-invasive wildlife experiences.

## Appendixes

**Appendix I – Marine Mammal Regulations (Previously recommended by Lifeforce)**

**Appendix II - Company Recording Procedures (Required information to be discussed.)**

**Appendix III - List of Agencies Monitoring and Responsible for Violations**
To be added.

**Appendix IV - "Monitoring Issues in BC and WA: Friendly Persuasion and Aquarium Pets?"** *Abstract: As we all seek the best management approaches to ecotourism and recreational activities the Lifeforce Foundation raises the questions "Should education programs include friendly persuasion to reduce harmful boat traffic?" and "Are the captive dolphin programs instilling speciesist attitudes towards dolphins in the wild?"*

**Appendix V – Model Monitoring Standards**